NVIDIA Performance Primitives (NPP)

Version 8.0

January 28, 2016

Contents

Chapter 1

NVIDIA Performance Primitives

Note: Starting with release 6.5, NPP is also provided as a static library (libnppc_static.a, libnppi_static.a, and libnpps_static.a) on Linux, Android, and Mac OSes in addition to being provided as a shared library. The static NPP libraries depend on a common thread abstraction layer library called cuLIBOS (libculibos.a) that is now distributed as part of the toolkit. Consequently, cuLIBOS must be provided to the linker when the static library is being linked against. The libnppi library is becoming quite large so to minimize library loading and CUDA runtime startup times it is recommended to use the static library(s) whenever possible. To improve loading and runtime performance when using dynamic libraries NPP 8.0 now includes the full set of nppi sub-libraries in addition to the full sized nppi library itself. Linking to only the sub-libraries that contain functions that your application uses can significantly improve load time and runtime startup performance. Some nppi functions make calls to other nppi and/or npps functions internally so you may need to link to a few extra libraries depending on what function calls your application makes. The nppi sub-libraries are split into sections corresponding to the way that nppi header files are split. There are also static versions of each of the new sub-libraries. The full sized nppi library will be deprecated in the next CUDA release. This list of sub-libraries is as follows:

```
nppial  arithmetic and logical operation functions in nppi_arithmetic_and_logical_operations.h
nppicc  color conversion and sampling functions in nppi_color_conversion.h
nppicom JPEG compression and decompression functions in nppi_compression_functions.h
nppidei data exchange and initialization functions in nppi_data_exchange_and_initialization.h
nppif   filtering and computer vision functions in nppi_filter_functions.h
nppig   geometry transformation functions found in nppi_geometry_transforms.h
nppim   morphological operation functions found in nppi_morphological_operations.h
nppist  statistics and linear transform in nppi_statistics_functions.h and nppi_linear_transforms.
nppisu  memory support functions in nppi_support_functions.h
nppitc  threshold and compare operation functions in nppi_threshold_and_compare_operations.h
```

For example, on Linux, to compile a small application foo using NPP against the dynamic library, the following command can be used:

```
nvcc foo.c  -lnppi  -o foo
```

Whereas to compile against the static NPP library, the following command has to be used:

```
nvcc foo.c  -lnppi_static -lculibos -o foo
```

It is also possible to use the native host C++ compiler. Depending on the host operating system, some additional libraries like pthread or dl might be needed on the linking line. The following command on Linux is suggested:

```
g++ foo.c  -lnppi_static -lculibos -lcudart_static -lpthread -ldl
-I <cuda-toolkit-path>/include -L <cuda-toolkit-path>/lib64 -o foo
```

NPP is a stateless API, as of NPP 6.5 the ONLY state that NPP remembers between function calls is the current stream ID, i.e. the stream ID that was set in the most recent nppSetStream call. The default stream ID is 0. If an application intends to use NPP with multiple streams then it is the responsibility of the application to call nppSetStream whenever it wishes to change stream IDs. Several NPP functions may call other NPP functions internally to complete their functionality. For this reason it is recommended that cudaDeviceSynchronize be called before making an nppSetStream call to change to a new stream ID. This will insure that any internal function calls that have not yet occurred will be completed using the current stream ID before it changes to a new ID. Calling cudaDeviceSynchronize frequently call kill performance so minimizing the frequency of these calls is critical for good performance. It is not necessary to call cudaDeviceSynchronize for stream management while the same stream ID is used for multiple NPP calls. All NPP functions should be thread safe except for the following functions:

```
nppiGraphcut_32s8u - this function has been deprecated in NPP 8.0

nppiGraphcut_32f8u - this function has been deprecated in NPP 8.0

nppiGraphcut8_32s8u - this function has been deprecated in NPP 8.0

nppiGraphcut8_32f8u - this function has been deprecated in NPP 8.0

nppiDCTQuantFwd8x8LS_JPEG_8u16s_C1R

nppiDCTQuantInv8x8LS_JPEG_16s8u_C1R
```

As of NPP version 5.0 and beyond a few parameters for a few pre-5.0 existing image LUT functions have changed from host memory pointers to device memory pointers. Your application will fail (crash or report an error) if you use these functions with host memory pointers. The functions are the nppiLUT_Linear_-8u_xxx functions.

Also, pre-5.0 function nppiMeanStdDev8uC1RGetBufferHostSize has been renamed nppiMeanStdDevGetBufferHostSize_8u_C1R.

1.1 What is NPP?

NVIDIA NPP is a library of functions for performing CUDA accelerated processing. The initial set of functionality in the library focuses on imaging and video processing and is widely applicable for developers in these areas. NPP will evolve over time to encompass more of the compute heavy tasks in a variety of problem domains. The NPP library is written to maximize flexibility, while maintaining high performance.

NPP can be used in one of two ways:

- A stand-alone library for adding GPU acceleration to an application with minimal effort. Using this route allows developers to add GPU acceleration to their applications in a matter of hours.
- A cooperative library for interoperating with a developer's GPU code efficiently.

Either route allows developers to harness the massive compute resources of NVIDIA GPUs, while simultaneously reducing development times.

1.2 Documentation

- General API Conventions

- Signal-Processing Specific API Conventions
- Imaging-Processing Specific API Conventions

1.3 Technical Specifications

Supported Platforms:

- Microsoft Windows 7, 8, and 10 (64-bit and 32-bit)
- Microsoft Windows Vista (64-bit and 32-bit)
- Linux (Centos, Ubuntu, and several others) (64-bit and 32-bit)
- Mac OS X (64-bit)
- Android on Arm (32-bit and 64-bit)

1.4 Files

NPP is comprises the following files:

1.4.1 Header Files

- nppdefs.h
- nppcore.h
- nppi::h
- npps::h
- nppversion.h
- npp::h

All those header files are located in the CUDA Toolkit's

```
/include/
```

directory.

1.4.2 Library Files

Starting with Version 5.5 NPP's functionality is now split up into 3 distinct libraries:

- A core library (NPPC) containing basic functionality from the npp.h header files as well as functionality shared by the other two libraries.
- The image processing library NPPI. Any functions from the nppi.h header file (or the various header files named "nppi_xxx.h" are bundled into the NPPI library.

- The signal processing library NPPS. Any function from the npps.h header file (or the various header files named "npps_xxx.h" are bundled into the NPPS library.

On the Windows platform the NPP stub libraries are found in the CUDA Toolkit's library directory:

```
/lib/nppc.lib

/lib/nppi.lib

/lib/npps.lib
```

The matching DLLs are located in the CUDA Toolkit's binary directory. Example

```
/bin/nppi64_55_<build_no>.dll      // Dynamic image-processing library for 64-bit Windows.
```

On Linux and Mac platforms the dynamic libraries are located in the lib directory

```
/lib/libnppc32.so.5.5.<build_no>   // NPP 32-bit dynamic core library for Linux

/lib/libnpps32.5.5.dylib  // NPP 32-bit dynamic signal processing library for Mac
```

1.5 Supported NVIDIA Hardware

NPP runs on all CUDA capable NVIDIA hardware. For details please see http://www.nvidia.com/object/cuda_learn_products.html

Chapter 2

General API Conventions

2.1 Memory Management

The design of all the NPP functions follows the same guidelines as other NVIDIA CUDA libraries like cuFFT and cuBLAS. That is that all pointer arguments in those APIs are device pointers.

This convention enables the individual developer to make smart choices about memory management that minimize the number of memory transfers. It also allows the user the maximum flexibility regarding which of the various memory transfer mechanisms offered by the CUDA runtime is used, e.g. synchronous or asynchronous memory transfers, zero-copy and pinned memory, etc.

The most basic steps involved in using NPP for processing data is as follows:

1. Transfer input data from the host to device using

   ```
   cudaMemCpy(...)
   ```

2. Process data using one or several NPP functions or custom CUDA kernels
3. Transfer the result data from the device to the host using

   ```
   cudaMemCpy(...)
   ```

2.1.1 Scratch Buffer and Host Pointer

Some primitives of NPP require additional device memory buffers (scratch buffers) for calculations, e.g. signal and image reductions (Sum, Max, Min, MinMax, etc.). In order to give the NPP user maximum control regarding memory allocations and performance, it is the user's responsibility to allocate and delete those temporary buffers. For one this has the benefit that the library will not allocate memory unbeknownst to the user. It also allows developers who invoke the same primitive repeatedly to allocate the scratch only once, improving performance and potential device-memory fragmentation .

Scratch-buffer memory is unstructured and may be passed to the primitive in uninitialized form. This allows for reuse of the same scratch buffers with any primitive require scratch memory, as long as it is sufficiently sized.

The minimum scratch-buffer size for a given primitive (e.g. nppsSum_32f()) can be obtained by a companion function (e.g. nppsSumGetBufferSize_32f()). The buffer size is returned via a host pointer as allocation of the scratch-buffer is performed via CUDA runtime host code.

An example to invoke signal sum primitive and allocate and free the necessary scratch memory:

```
// pSrc, pSum, pDeviceBuffer are all device pointers.
Npp32f * pSrc;
Npp32f * pSum;
Npp8u * pDeviceBuffer;
int nLength = 1024;

// Allocate the device memroy.
cudaMalloc((void **)(&pSrc), sizeof(Npp32f) * nLength);
nppsSet_32f(1.0f, pSrc, nLength);
cudaMalloc((void **)(&pSum), sizeof(Npp32f) * 1);

// Compute the appropriate size of the scratch-memory buffer
int nBufferSize;
nppsSumGetBufferSize_32f(nLength, &nBufferSize);
// Allocate the scratch buffer
cudaMalloc((void **)(&pDeviceBuffer), nBufferSize);

// Call the primitive with the scratch buffer
```

```
nppsSum_32f(pSrc, nLength, pSum, pDeviceBuffer);
Npp32f nSumHost;
cudaMemcpy(&nSumHost, pSum, sizeof(Npp32f) * 1, cudaMemcpyDeviceToHost);
printf("sum = %f\n", nSumHost); // nSumHost = 1024.0f;

// Free the device memory
cudaFree(pSrc);
cudaFree(pDeviceBuffer);
cudaFree(pSum);
```

2.2 Function Naming

Since NPP is a C API and therefore does not allow for function overloading for different data-types the NPP naming convention addresses the need to differentiate between different flavors of the same algorithm or primitive function but for various data types. This disambiguation of different flavors of a primitive is done via a suffix containing data type and other disambiguating information.

In addition to the flavor suffix, all NPP functions are prefixed with by the letters "npp". Primitives belonging to NPP's image-processing module add the letter "i" to the npp prefix, i.e. are prefixed by "nppi". Similarly signal-processing primitives are prefixed with "npps".

The general naming scheme is:

npp<module info><PrimitiveName>_<data-type info>[_<additional flavor info>](<parameter list>)

The data-type information uses the same names as the Basic NPP Data Types. For example the data-type information "8u" would imply that the primitive operates on Npp8u data.

If a primitive consumes different type data from what it produces, both types will be listed in the order of consumed to produced data type.

Details about the "additional flavor information" is provided for each of the NPP modules, since each problem domain uses different flavor information suffixes.

2.3 Integer Result Scaling

NPP signal processing and imaging primitives often operate on integer data. This integer data is usually a fixed point fractional representation of some physical magnitue (e.g. luminance). Because of this fixed-point nature of the representation many numerical operations (e.g. addition or multiplication) tend to produce results exceeding the original fixed-point range if treated as regular integers.

In cases where the results exceed the original range, these functions clamp the result values back to the valid range. E.g. the maximum positive value for a 16-bit unsigned integer is 32767. A multiplication operation of 4 $*$ 10000 = 40000 would exceed this range. The result would be clamped to be 32767.

To avoid the level of lost information due to clamping most integer primitives allow for result scaling. Primitives with result scaling have the "Sfs" suffix in their name and provide a parameter "nScaleFactor" that controls the amount of scaling. Before the results of an operation are clamped to the valid output-data range by multiplying them with $2^{\text{-nScaleFactor}}$.

Example: The primitive nppsSqr_8u_Sfs() computes the square of 8-bit unsigned sample values in a signal (1D array of values). The maximum value of a 8-bit value is 255. The square of $255^2 = 65025$ which would be clamped to 255 if no result scaling is performed. In order to map the maximum value of 255 to 255 in the result, one would specify an integer result scaling factor of 8, i.e. multiply each result with $2^{-8} = \frac{1}{2^8} = \frac{1}{256}$. The final result for a signal value of 255 being squared and scaled would be:

$$255^2 \cdot 2^{-8} = 254.00390625$$

which would be rounded to a final result of 254.

A medium gray value of 128 would result in

$$128^2 * 2^{-8} = 64$$

2.4 Rounding Modes

Many NPP functions require converting floating-point values to integers. The NppRoundMode enum lists NPP's supported rounding modes. Not all primitives in NPP that perform rounding as part of their functionality allow the user to specify the round-mode used. Instead they use NPP's default rounding mode, which is NPP_RND_FINANCIAL.

2.4.1 Rounding Mode Parameter

A subset of NPP functions performing rounding as part of their functionality do allow the user to specify which rounding mode is used through a parameter of the NppRoundMode type.

Chapter 3

Signal-Processing Specific API Conventions

3.1 Signal Data

Signal data is passed to and from NPPS primitives via a pointer to the signal's data type.

The general idea behind this fairly low-level way of passing signal data is ease-of-adoption into existing software projects:

- Passing the data pointer rather than a higher- level signal struct allows for easy adoption by not requiring a specific signal representation (that could include total signal size offset, or other additional information). This avoids awkward packing and unpacking of signal data from the host application to an NPP specific signal representation.

3.1.1 Parameter Names for Signal Data

There are three general cases of image-data passing throughout NPP detailed in the following sections.

Those are signals consumed by the algorithm.

3.1.1.1 Source Signal Pointer

The source signal data is generally passed via a pointer named

```
pSrc
```

The source signal pointer is generally defined constant, enforcing that the primitive does not change any image data pointed to by that pointer. E.g.

```
nppsPrimitive_32s(const Npp32s * pSrc, ...)
```

In case the primitive consumes multiple signals as inputs the source pointers are numbered like this:

```
pSrc1, pScr2, ...
```

3.1.1.2 Destination Signal Pointer

The destination signal data is generally passed via a pointer named

```
pDst
```

In case the primitive consumes multiple signals as inputs the source pointers are numbered like this:

```
pDst1, pDst2, ...
```

3.1.1.3 In-Place Signal Pointer

In the case of in-place processing, source and destination are served by the same pointer and thus pointers to in-place signal data are called:

```
pSrcDst
```

3.1.2 Signal Data Alignment Requirements

NPP requires signal sample data to be naturally aligned, i.e. any pointer

```
NppType * p;
```

to a sample in a signal needs to fulfill:

```
assert(p % sizeof(p) == 0);
```

3.1.3 Signal Data Related Error Codes

All NPPI primitives operating on signal data validate the signal-data pointer for proper alignment and test that the point is not null.

Failed validation results in one of the following error codes being returned and the primitive not being executed:

- NPP_NULL_POINTER_ERROR is returned if the image-data pointer is 0 (NULL).
- NPP_ALIGNMENT_ERROR if the signal-data pointer address is not a multiple of the signal's data-type size.

3.2 Signal Length

The vast majority of NPPS functions take a

```
nLength
```

parameter that tells the primitive how many of the signal's samples starting from the given data pointer are to be processed.

3.2.1 Length Related Error Codes

All NPPS primitives taking a length parameter validate this input.

Failed validation results in the following error code being returned and the primitive not being executed:

- NPP_SIZE_ERROR is returned if the length is negative.

Chapter 4

Imaging-Processing Specific API Conventions

4.1 Function Naming

Image processing related functions use a number of suffixes to indicate various different flavors of a primitive beyond just different data types. The flavor suffix uses the following abbreviations:

- "A" if the image is a 4 channel image this indicates the result alpha channel is not affected by the primitive.
- "Cn" the image consists of n channel packed pixels, where n can be 1, 2, 3 or 4.
- "Pn" the image consists of n separate image planes, where n can be 1, 2, 3 or 4.
- "C" (following the channel information) indicates that the primitive only operates on one of the color channels, the "channel-of-interest". All other output channels are not affected by the primitive.
- "I" indicates that the primitive works "in-place". In this case the image-data pointer is usually named "pSrcDst" to indicate that the image data serves as source and destination at the same time.
- "M" indicates "masked operation". These types of primitives have an additional "mask image" as as input. Each pixel in the destination image corresponds to a pixel in the mask image. Only pixels with a corresponding non-zero mask pixel are being processed.
- "R" indicates the primitive operates only on a rectangular "region-of-interest" or "ROI". All ROI primitives take an additional input parameter of type NppiSize, which specifies the width and height of the rectangular region that the primitive should process. For details on how primitives operate on ROIs see: Region-of-Interest (ROI).
- "Sfs" indicates the result values are processed by fixed scaling and saturation before they're written out.

The suffixes above always appear in alphabetical order. E.g. a 4 channel primitive not affecting the alpha channel with masked operation, in place and with scaling/saturation and ROI would have the postfix: "AC4IMRSfs".

4.2 Image Data

Image data is passed to and from NPPI primitives via a pair of parameters:

1. A pointer to the image's underlying data type.
2. A line step in bytes (also sometimes called line stride).

The general idea behind this fairly low-level way of passing image data is ease-of-adoption into existing software projects:

- Passing a raw pointer to the underlying pixel data type, rather than structured (by color) channel pixel data allows usage of the function in a wide variety of situations avoiding risky type cast or expensive image data copies.
- Passing the data pointer and line step individually rather than a higher- level image struct again allows for easy adoption by not requiring a specific image representation and thus avoiding awkward packing and unpacking of image data from the host application to an NPP specific image representation.

4.2.1 Line Step

The line step (also called "line stride" or "row step") allows lines of oddly sized images to start on well-aligned addresses by adding a number of unused bytes at the ends of the lines. This type of line padding has been common practice in digital image processing for a long time and is not particular to GPU image processing.

The line step is the number of bytes in a line **including the padding.** An other way to interpret this number is to say that it is the number of bytes between the first pixel of successive rows in the image, or generally the number of bytes between two neighboring pixels in any column of pixels.

The general reason for the existence of the line step it is that uniformly aligned rows of pixel enable optimizations of memory-access patterns.

Even though all functions in NPP will work with arbitrarily aligned images, best performance can only be achieved with well aligned image data. Any image data allocated with the NPP image allocators or the 2D memory allocators in the CUDA runtime, is well aligned.

Particularly on older CUDA capable GPUs it is likely that the performance decrease for misaligned data is substantial (orders of magnitude).

All image data passed to NPPI primitives requires a line step to be provided. It is important to keep in mind that this line step is always specified in terms of bytes, not pixels.

4.2.2 Parameter Names for Image Data

There are three general cases of image-data passing throughout NPP detailed in the following sections.

4.2.2.1 Passing Source-Image Data

Those are images consumed by the algorithm.

4.2.2.1.1 Source-Image Pointer

The source image data is generally passed via a pointer named

```
pSrc
```

The source image pointer is generally defined constant, enforcing that the primitive does not change any image data pointed to by that pointer. E.g.

```
nppiPrimitive_32s_C1R(const Npp32s * pSrc, ...)
```

In case the primitive consumes multiple images as inputs the source pointers are numbered like this:

```
pSrc1, pScr2, ...
```

4.2.2.1.2 Source-Planar-Image Pointer Array

The planar source image data is generally passed via an array of pointers named

```
pSrc[]
```

The planar source image pointer array is generally defined a constant array of constant pointers, enforcing that the primitive does not change any image data pointed to by those pointers. E.g.

```
nppiPrimitive_8u_P3R(const Npp8u * const pSrc[3], ...)
```

Each pointer in the array points to a different image plane.

4.2.2.1.3 Source-Planar-Image Pointer

The multiple plane source image data is passed via a set of pointers named

```
pSrc1, pSrc2, ...
```

The planar source image pointer is generally defined as one of a set of constant pointers with each pointer pointing to a different input image plane.

4.2.2.1.4 Source-Image Line Step

The source image line step is the number of bytes between successive rows in the image. The source image line step parameter is

```
nSrcStep
```

or in the case of multiple source images

```
nSrcStep1, nSrcStep2, ...
```

4.2.2.1.5 Source-Planar-Image Line Step Array

The source planar image line step array is an array where each element of the array contains the number of bytes between successive rows for a particular plane in the input image. The source planar image line step array parameter is

```
rSrcStep[]
```

4.2.2.1.6 Source-Planar-Image Line Step

The source planar image line step is the number of bytes between successive rows in a particular plane of the multiplane input image. The source planar image line step parameter is

```
nSrcStep1, nSrcStep2, ...
```

4.2.2.2 Passing Destination-Image Data

Those are images produced by the algorithm.

4.2.2.2.1 Destination-Image Pointer

The destination image data is generally passed via a pointer named

```
pDst
```

In case the primitive generates multiple images as outputs the destination pointers are numbered like this:

```
pDst1, pDst2, ...
```

4.2.2.2.2 Destination-Planar-Image Pointer Array

The planar destination image data pointers are generally passed via an array of pointers named

```
pDst[]
```

Each pointer in the array points to a different image plane.

4.2.2.2.3 Destination-Planar-Image Pointer

The destination planar image data is generally passed via a pointer to each plane of a multiplane output image named

```
pDst1, pDst2, ...
```

4.2.2.2.4 Destination-Image Line Step

The destination image line step parameter is

```
nDstStep
```

or in the case of multiple destination images

```
nDstStep1, nDstStep2, ...
```

4.2.2.2.5 Destination-Planar-Image Line Step Array

The destination planar image line step array is an array where each element of the array contains the number of bytes between successive rows for a particular plane in the output image. The destination planar image line step array parameter is

```
rDstStep[]
```

4.2.2.2.6 Destination-Planar-Image Line Step

The destination planar image line step is the number of bytes between successive rows for a particular plane in a multiplane output image. The destination planar image line step parameter is

```
nDstStep1, nDstStep2, ...
```

4.2.2.3 Passing In-Place Image Data

4.2.2.3.1 In-Place Image Pointer

In the case of in-place processing, source and destination are served by the same pointer and thus pointers to in-place image data are called:

```
pSrcDst
```

4.2.2.3.2 In-Place-Image Line Step

The in-place line step parameter is

```
nSrcDstStep
```

4.2.2.4 Passing Mask-Image Data

Some image processing primitives have variants supporting Masked Operation.

4.2.2.4.1 Mask-Image Pointer

The mask-image data is generally passed via a pointer named

```
pMask
```

4.2.2.4.2 Mask-Image Line Step

The mask-image line step parameter is

```
nMaskStep
```

4.2.2.5 Passing Channel-of-Interest Data

Some image processing primitives support Channel-of-Interest API.

4.2.2.5.1 Channel_of_Interest Number

The channel-of-interest data is generally an integer (either 1, 2, or 3):

```
nCOI
```

4.2.3 Image Data Alignment Requirements

NPP requires pixel data to adhere to certain alignment constraints: For 2 and 4 channel images the following alignment requirement holds: data_pointer % (#channels ∗ sizeof(channel type)) == 0. E.g. a 4 channel image with underlying type Npp8u (8-bit unsigned) would require all pixels to fall on addresses that are multiples of 4 (4 channels ∗ 1 byte size).

As a logical consequence of all pixels being aligned to their natural size the image line steps of 2 and 4 channel images also need to be multiples of the pixel size.

1 and 3 channel images only require that pixel pointers are aligned to the underlying data type, i.e. pData % sizof(data type) == 0. And consequentially line steps are also held to this requirement.

4.2.4 Image Data Related Error Codes

All NPPI primitives operating on image data validate the image-data pointer for proper alignment and test that the point is not null. They also validate the line stride for proper alignment and guard against the step being less or equal to 0. Failed validation results in one of the following error codes being returnd and the primitive not being executed:

- NPP_STEP_ERROR is returned if the data step is 0 or negative.
- NPP_NOT_EVEN_STEP_ERROR is returned if the line step is not a multiple of the pixel size for 2 and 4 channel images.
- NPP_NULL_POINTER_ERROR is returned if the image-data pointer is 0 (NULL).
- NPP_ALIGNMENT_ERROR if the image-data pointer address is not a multiple of the pixel size for 2 and 4 channel images.

4.3 Region-of-Interest (ROI)

In practice processing a rectangular sub-region of an image is often more common than processing complete images. The vast majority of NPP's image-processing primitives allow for processing of such sub regions also referred to as regions-of-interest or ROIs.

All primitives supporting ROI processing are marked by a "R" in their name suffix. In most cases the ROI is passed as a single NppiSize struct, which provides the with and height of the ROI. This raises the question how the primitive knows where in the image this rectangle of (width, height) is located. The "start pixel" of the ROI is implicitly given by the image-data pointer. I.e. instead of explicitly passing a pixel coordinate for the upper-left corner (lowest memory address), the user simply offsets the image-data pointers to point to the first pixel of the ROI.

In practice this means that for an image (pSrc, nSrcStep) and the start-pixel of the ROI being at location (x, y), one would pass

pSrcOffset = pSrc + y $*$ nSrcStep + x $*$ PixelSize;

as the image-data source to the primitive. PixelSize is typically computed as

PixelSize = NumberOfColorChannels $*$ sizeof(PixelDataType).

E.g. for a pimitive like nppiSet_16s_C4R() we would have

- NumberOfColorChannels == 4;
- sizeof(Npp16s) == 2;
- and thus PixelSize = 4 $*$ 2 = 8;

4.3.1 ROI Related Error Codes

All NPPI primitives operating on ROIs of image data validate the ROI size and image's step size. Failed validation results in one of the following error codes being returned and the primitive not being executed:

- NPP_SIZE_ERROR is returned if either the ROI width or ROI height are negative.
- NPP_STEP_ERROR is returned if the ROI width exceeds the image's line step. In mathematical terms (widthROI $*$ PixelSize) $>$ nLinStep indicates an error.

4.4 Masked Operation

Some primitive support masked operation. An "M" in the suffix of those variants indicates masked operation. Primitives supporting masked operation consume an additional input image provided via a Mask-Image Pointer and Mask-Image Line Step. The mask image is interpreted by these primitives as a boolean image. The values of type Npp8u are interpreted as boolean values where a values of 0 indicates false, any non-zero values true.

Unless otherwise indicated the operation is only performed on pixels where its spatially corresponding mask pixel is true (non-zero). E.g. a masked copy operation would only copy those pixels in the ROI that have corresponding non-zero mask pixels.

4.5 Channel-of-Interest API

Some primitives allow restricting operations to a single channel of interest within a multi-channel image. These primitives are suffixed with the letter "C" (after the channel information, e.g. nppiCopy_8u_C3CR(...). The channel-of-interest is generally selected by offsetting the image-data pointer to point directly to the channel- of-interest rather than the base of the first pixel in the ROI. Some primitives also explicitly specify the selected channel number and pass it via an integer, e.g. nppiMean_StdDev_8u_C3CR(...).

4.5.1 Select-Channel Source-Image Pointer

This is a pointer to the channel-of-interest within the first pixel of the source image. E.g. if pSrc is the pointer to the first pixel inside the ROI of a three channel image. Using the appropriate select-channel copy primitive one could copy the second channel of this source image into the first channel of a destination image given by pDst by offsetting the pointer by one:

```
nppiCopy_8u_C3CR(pSrc + 1, nSrcStep, pDst, nDstStep, oSizeROI);
```

4.5.2 Select-Channel Source-Image

Some primitives allow the user to select the channel-of-interest by specifying the channle number (nCOI). This approach is typically used in the image statistical functions. For example,

```
nppiMean_StdDev_8u_C3CR(pSrc, nSrcStep, oSizeROI, nCOI, pDeviceBuffer, pMean, pStdDev );
```

The channel-of-interest number can be either 1, 2, or 3.

4.5.3 Select-Channel Destination-Image Pointer

This is a pointer to the channel-of-interest within the first pixel of the destination image. E.g. if pDst is the pointer to the first pixel inside the ROI of a three channel image. Using the appropriate select-channel copy primitive one could copy data into the second channel of this destination image from the first channel of a source image given by pSrc by offseting the destination pointer by one:

```
nppiCopy_8u_C3CR(pSrc, nSrcStep, pDst + 1, nDstStep, oSizeROI);
```

4.6 Source-Image Sampling

A large number of NPP image-processing functions consume at least one source image and produce an output image (e.g. nppiAddC_8u_C1RSfs() or nppiFilterBox_8u_C1R()). All NPP functions falling into this category also operate on ROIs (see Region-of-Interest (ROI)) which for these functions should be considered to describe the destination ROI. In other words the ROI describes a rectangular region in the destination image and all pixels inside of this region are being written by the function in question.

In order to use such functions successfully it is important to understand how the user defined destination ROI affects which pixels in the input image(s) are being read by the algorithms. To simplify the discussion of ROI propagation (i.e. given a destination ROI, what are the ROIs in in the source(s)), it makes sense to distinguish two major cases:

1. Point-Wise Operations: These are primitives like nppiAddC_8u_C1RSfs(). Each output pixel requires exaclty one input pixel to be read.

2. Neighborhood Operations: These are primitives like nppiFilterBox_8u_C1R(), which require a group of pixels from the source image(s) to be read in order to produce a single output.

4.6.1 Point-Wise Operations

As mentioned above, point-wise operations consume a single pixel from the input image (or a single pixel from each input image, if the operation in question has more than one input image) in order to produce a single output pixel.

4.6.2 Neighborhood Operations

In the case of neightborhood operations a number of input pixels (a "neighborhood" of pixels) is read in the input image (or images) in order to compute a single output pixel. All of the functions for image_filtering_functions and image_morphological_operations are neigborhood operations.

Most of these functions have parameters that affect the size and relative location of the neighborhood: a mask-size structure and an achor-point structure. Both parameters are described in more detail in the next subsections.

4.6.2.1 Mask-Size Parameter

Many NPP neighborhood operations allow the user to specify the size of the neightborhood via a parameter usually named oMaskSize of type NppiSize. In those cases the neighborhood of pixels read from the source(s) is exactly the size of the mask. Assuming the mask is anchored at location (0, 0) (see Anchor-Point Parameter below) and has a size of (w, h), i.e.

```
assert(oMaskSize.w == w);
assert(oMaskSize.h == h);
assert(oAnchor.x == 0);
assert(oAnchor.y == 0);
```

a neighborhood operation would read the following source pixels in order to compute destiation pixel $D_{i,j}$:

$$\begin{array}{llll}
S_{i,j} & S_{i,j+1} & \dots & S_{i,j+w-1} \\
S_{i+1,j} & S_{i+1,j+1} & \dots & S_{i+1,j+w-1} \\
\vdots & \vdots & \ddots & \vdots \\
S_{i+h-1,j} & S_{i+h-1,j+1} & \dots & S_{i+h-1,j+w-1}
\end{array}$$

4.6.2.2 Anchor-Point Parameter

Many NPP primitives perforing neighborhood operations allow the user to specify the relative location of the neighborhood via a parameter usually named oAnchor of type NppiPoint. Using the anchor a developer can chose the position of the mask (see Mask-Size Parameter) relative to current pixel index.

Using the same example as in Mask-Size Parameter, but this time with an anchor position of (a, b):

```
assert(oMaskSize.w == w);
assert(oMaskSize.h == h);
assert(oAnchor.x == a);
assert(oAnchor.y == b);
```

the following pixels from the source image would be read:

$$\begin{array}{llll}
S_{i-a,j-b} & S_{i-a,j-b+1} & \dots & S_{i-a,j-b+w-1} \\
S_{i-a+1,j-b} & S_{i-a+1,j-b+1} & \dots & S_{i-a+1,j-b+w-1} \\
\vdots & \vdots & \ddots & \vdots \\
S_{i-a+h-1,j-b} & S_{i-a+h-1,j-b+1} & \dots & S_{i-a+h-1,j-b+w-1}
\end{array}$$

4.6.2.3 Sampling Beyond Image Boundaries

NPP primitives in general and NPP neighborhood operations in particular require that all pixel locations read and written are valid and within the boundaries of the respective images. Sampling outside of the defined image data regions results in undefined behavior and may lead to system instabilty.

This poses a problem in practice: when processing full-size images one cannot choose the destination ROI to be the same size as the source image. Because neigborhood operations read pixels from an enlarged source ROI, the destination ROI must be shrunk so that the expanded source ROI does not exceed the source image's size.

For cases where this "shrinking" of the destination image size is unacceptable, NPP provides a set of border-expanding Copy primitives. E.g. nppiCopyConstBorder_8u_C1R(), nppiCopyReplicateBorder_8u_C1R() and nppiCopyWrapBorder_8u_C1R(). The user can use these primitives to "expand" the source image's size using one of the three expansion modes. The expanded image can then be safely passed to a neighborhood operation producing a full-size result.

Chapter 5

Module Index

5.1 Modules

Here is a list of all modules:

Chapter 6

Data Structure Index

6.1 Data Structures

Here are the data structures with brief descriptions:

Chapter 7

Module Documentation

7.1 NPP Core

Basic functions for library management, in particular library version and device property query functions.

Functions

- const NppLibraryVersion ∗ nppGetLibVersion (void)

  Get the NPP library version.

- NppGpuComputeCapability nppGetGpuComputeCapability (void)

  What CUDA compute model is supported by the active CUDA device?

- int nppGetGpuNumSMs (void)

  Get the number of Streaming Multiprocessors (SM) on the active CUDA device.

- int nppGetMaxThreadsPerBlock (void)

  Get the maximum number of threads per block on the active CUDA device.

- int nppGetMaxThreadsPerSM (void)

  Get the maximum number of threads per SM for the active GPU.

- int nppGetGpuDeviceProperties (int ∗pMaxThreadsPerSM, int ∗pMaxThreadsPerBlock, int ∗pNumberOfSMs)

  Get the maximum number of threads per SM, maximum threads per block, and number of SMs for the active GPU.

- const char ∗ nppGetGpuName (void)

  Get the name of the active CUDA device.

- cudaStream_t nppGetStream (void)

  Get the NPP CUDA stream.

- unsigned int nppGetStreamNumSMs (void)

  Get the number of SMs on the device associated with the current NPP CUDA stream.

- unsigned int nppGetStreamMaxThreadsPerSM (void)

  Get the maximum number of threads per SM on the device associated with the current NPP CUDA stream.

- void nppSetStream (cudaStream_t hStream)

  Set the NPP CUDA stream.

7.1.1 Detailed Description

Basic functions for library management, in particular library version and device property query functions.

7.1.2 Function Documentation

7.1.2.1 NppGpuComputeCapability nppGetGpuComputeCapability (void)

What CUDA compute model is supported by the active CUDA device?

Before trying to call any NPP functions, the user should make a call this function to ensure that the current machine has a CUDA capable device.

Returns:

An enum value representing if a CUDA capable device was found and what level of compute capabilities it supports.

7.1.2.2 int nppGetGpuDeviceProperties (int ∗ *pMaxThreadsPerSM*, int ∗ *pMaxThreadsPerBlock*, int ∗ *pNumberOfSMs*)

Get the maximum number of threads per SM, maximum threads per block, and number of SMs for the active GPU.

Returns:

cudaSuccess for success, -1 for failure

7.1.2.3 const char∗ nppGetGpuName (void)

Get the name of the active CUDA device.

Returns:

Name string of the active graphics-card/compute device in a system.

7.1.2.4 int nppGetGpuNumSMs (void)

Get the number of Streaming Multiprocessors (SM) on the active CUDA device.

Returns:

Number of SMs of the default CUDA device.

7.1.2.5 const NppLibraryVersion∗ nppGetLibVersion (void)

Get the NPP library version.

Returns:

A struct containing separate values for major and minor revision and build number.

7.1.2.6 int nppGetMaxThreadsPerBlock (void)

Get the maximum number of threads per block on the active CUDA device.

Returns:

Maximum number of threads per block on the active CUDA device.

7.1.2.7 int nppGetMaxThreadsPerSM (void)

Get the maximum number of threads per SM for the active GPU.

Returns:

Maximum number of threads per SM for the active GPU

7.1.2.8 cudaStream_t nppGetStream (void)

Get the NPP CUDA stream.

NPP enables concurrent device tasks via a global stream state varible. The NPP stream by default is set to stream 0, i.e. non-concurrent mode. A user can set the NPP stream to any valid CUDA stream. All CUDA commands issued by NPP (e.g. kernels launched by the NPP library) are then issed to that NPP stream.

7.1.2.9 unsigned int nppGetStreamMaxThreadsPerSM (void)

Get the maximum number of threads per SM on the device associated with the current NPP CUDA stream.

NPP enables concurrent device tasks via a global stream state varible. The NPP stream by default is set to stream 0, i.e. non-concurrent mode. A user can set the NPP stream to any valid CUDA stream. All CUDA commands issued by NPP (e.g. kernels launched by the NPP library) are then issed to that NPP stream. This call avoids a cudaGetDeviceProperties() call.

7.1.2.10 unsigned int nppGetStreamNumSMs (void)

Get the number of SMs on the device associated with the current NPP CUDA stream.

NPP enables concurrent device tasks via a global stream state varible. The NPP stream by default is set to stream 0, i.e. non-concurrent mode. A user can set the NPP stream to any valid CUDA stream. All CUDA commands issued by NPP (e.g. kernels launched by the NPP library) are then issed to that NPP stream. This call avoids a cudaGetDeviceProperties() call.

7.1.2.11 void nppSetStream (cudaStream_t *hStream*)

Set the NPP CUDA stream.

See also:

nppGetStream()

7.2 NPP Type Definitions and Constants

Data Structures

- struct NppLibraryVersion
- struct NppiPoint

  2D Point

- struct NppiSize

  2D Size This struct typically represents the size of a a rectangular region in two space.

- struct NppiRect

  2D Rectangle This struct contains position and size information of a rectangle in two space.

- struct NppiHaarClassifier_32f
- struct NppiHaarBuffer

Modules

- Basic NPP Data Types

Defines

- #define NPP_MIN_8U (0)

  Minimum 8-bit unsigned integer.

- #define NPP_MAX_8U (255)

  Maximum 8-bit unsigned integer.

- #define NPP_MIN_16U (0)

  Minimum 16-bit unsigned integer.

- #define NPP_MAX_16U (65535)

  Maximum 16-bit unsigned integer.

- #define NPP_MIN_32U (0)

  Minimum 32-bit unsigned integer.

- #define NPP_MAX_32U (4294967295U)

  Maximum 32-bit unsigned integer.

- #define NPP_MIN_64U (0)

  Minimum 64-bit unsigned integer.

- #define NPP_MAX_64U (18446744073709551615ULL)

  Maximum 64-bit unsigned integer.

- #define NPP_MIN_8S (-127 - 1)

  Minimum 8-bit signed integer.

- #define NPP_MAX_8S (127)

  Maximum 8-bit signed integer.

- #define NPP_MIN_16S (-32767 - 1)

  Minimum 16-bit signed integer.

- #define NPP_MAX_16S (32767)

  Maximum 16-bit signed integer.

- #define NPP_MIN_32S (-2147483647 - 1)

  Minimum 32-bit signed integer.

- #define NPP_MAX_32S (2147483647)

  Maximum 32-bit signed integer.

- #define NPP_MAX_64S (9223372036854775807LL)

  Maximum 64-bit signed integer.

- #define NPP_MIN_64S (-9223372036854775807LL - 1)

  Minimum 64-bit signed integer.

- #define NPP_MINABS_32F (1.175494351e-38f)

  Smallest positive 32-bit floating point value.

- #define NPP_MAXABS_32F (3.402823466e+38f)

  Largest positive 32-bit floating point value.

- #define NPP_MINABS_64F (2.2250738585072014e-308)

  Smallest positive 64-bit floating point value.

- #define NPP_MAXABS_64F (1.7976931348623158e+308)

  Largest positive 64-bit floating point value.

Enumerations

- enum NppiInterpolationMode {
  NPPI_INTER_UNDEFINED = 0,
  NPPI_INTER_NN = 1,
  NPPI_INTER_LINEAR = 2,
  NPPI_INTER_CUBIC = 4,
  NPPI_INTER_CUBIC2P_BSPLINE,
  NPPI_INTER_CUBIC2P_CATMULLROM,
  NPPI_INTER_CUBIC2P_B05C03,
  NPPI_INTER_SUPER = 8,
  NPPI_INTER_LANCZOS = 16,
  NPPI_INTER_LANCZOS3_ADVANCED = 17,
  NPPI_SMOOTH_EDGE = (1 << 31) }

Filtering methods.

- enum NppiBayerGridPosition {
  NPPI_BAYER_BGGR = 0,
  NPPI_BAYER_RGGB = 1,
  NPPI_BAYER_GBRG = 2,
  NPPI_BAYER_GRBG = 3 }

  Bayer Grid Position Registration.

- enum NppiMaskSize {
  NPP_MASK_SIZE_1_X_3,
  NPP_MASK_SIZE_1_X_5,
  NPP_MASK_SIZE_3_X_1 = 100,
  NPP_MASK_SIZE_5_X_1,
  NPP_MASK_SIZE_3_X_3 = 200,
  NPP_MASK_SIZE_5_X_5,
  NPP_MASK_SIZE_7_X_7 = 400,
  NPP_MASK_SIZE_9_X_9 = 500,
  NPP_MASK_SIZE_11_X_11 = 600,
  NPP_MASK_SIZE_13_X_13 = 700,
  NPP_MASK_SIZE_15_X_15 = 800 }

  Fixed filter-kernel sizes.

- enum NppiDifferentialKernel {
  NPP_FILTER_SOBEL,
  NPP_FILTER_SCHARR }

  Differential Filter types.

- enum NppStatus {
  NPP_NOT_SUPPORTED_MODE_ERROR = -9999,
  NPP_INVALID_HOST_POINTER_ERROR = -1032,
  NPP_INVALID_DEVICE_POINTER_ERROR = -1031,
  NPP_LUT_PALETTE_BITSIZE_ERROR = -1030,
  NPP_ZC_MODE_NOT_SUPPORTED_ERROR = -1028,
  NPP_NOT_SUFFICIENT_COMPUTE_CAPABILITY = -1027,
  NPP_TEXTURE_BIND_ERROR = -1024,
  NPP_WRONG_INTERSECTION_ROI_ERROR = -1020,
  NPP_HAAR_CLASSIFIER_PIXEL_MATCH_ERROR = -1006,
  NPP_MEMFREE_ERROR = -1005,
  NPP_MEMSET_ERROR = -1004,
  NPP_MEMCPY_ERROR = -1003,
  NPP_ALIGNMENT_ERROR = -1002,
  NPP_CUDA_KERNEL_EXECUTION_ERROR = -1000,

NPP_ROUND_MODE_NOT_SUPPORTED_ERROR = -213,

NPP_QUALITY_INDEX_ERROR = -210,

NPP_RESIZE_NO_OPERATION_ERROR = -201,

NPP_OVERFLOW_ERROR = -109,

NPP_NOT_EVEN_STEP_ERROR = -108,

NPP_HISTOGRAM_NUMBER_OF_LEVELS_ERROR = -107,

NPP_LUT_NUMBER_OF_LEVELS_ERROR = -106,

NPP_CORRUPTED_DATA_ERROR = -61,

NPP_CHANNEL_ORDER_ERROR = -60,

NPP_ZERO_MASK_VALUE_ERROR = -59,

NPP_QUADRANGLE_ERROR = -58,

NPP_RECTANGLE_ERROR = -57,

NPP_COEFFICIENT_ERROR = -56,

NPP_NUMBER_OF_CHANNELS_ERROR = -53,

NPP_COI_ERROR = -52,

NPP_DIVISOR_ERROR = -51,

NPP_CHANNEL_ERROR = -47,

NPP_STRIDE_ERROR = -37,

NPP_ANCHOR_ERROR = -34,

NPP_MASK_SIZE_ERROR = -33,

NPP_RESIZE_FACTOR_ERROR = -23,

NPP_INTERPOLATION_ERROR = -22,

NPP_MIRROR_FLIP_ERROR = -21,

NPP_MOMENT_00_ZERO_ERROR = -20,

NPP_THRESHOLD_NEGATIVE_LEVEL_ERROR = -19,

NPP_THRESHOLD_ERROR = -18,

NPP_CONTEXT_MATCH_ERROR = -17,

NPP_FFT_FLAG_ERROR = -16,

NPP_FFT_ORDER_ERROR = -15,

NPP_STEP_ERROR = -14,

NPP_SCALE_RANGE_ERROR = -13,

NPP_DATA_TYPE_ERROR = -12,

NPP_OUT_OFF_RANGE_ERROR = -11,

NPP_DIVIDE_BY_ZERO_ERROR = -10,

NPP_MEMORY_ALLOCATION_ERR = -9,

NPP_NULL_POINTER_ERROR = -8,

NPP_RANGE_ERROR = -7,

NPP_SIZE_ERROR = -6,

NPP_BAD_ARGUMENT_ERROR = -5,

NPP_NO_MEMORY_ERROR = -4,

NPP_NOT_IMPLEMENTED_ERROR = -3,

NPP_ERROR = -2,
NPP_ERROR_RESERVED = -1,
NPP_NO_ERROR = 0,
NPP_SUCCESS = NPP_NO_ERROR,
NPP_NO_OPERATION_WARNING = 1,
NPP_DIVIDE_BY_ZERO_WARNING = 6,
NPP_AFFINE_QUAD_INCORRECT_WARNING = 28,
NPP_WRONG_INTERSECTION_ROI_WARNING = 29,
NPP_WRONG_INTERSECTION_QUAD_WARNING = 30,
NPP_DOUBLE_SIZE_WARNING = 35,
NPP_MISALIGNED_DST_ROI_WARNING = 10000 }

Error Status Codes.

- enum NppGpuComputeCapability {
  NPP_CUDA_UNKNOWN_VERSION = -1,
  NPP_CUDA_NOT_CAPABLE = 0,
  NPP_CUDA_1_0 = 100,
  NPP_CUDA_1_1 = 110,
  NPP_CUDA_1_2 = 120,
  NPP_CUDA_1_3 = 130,
  NPP_CUDA_2_0 = 200,
  NPP_CUDA_2_1 = 210,
  NPP_CUDA_3_0 = 300,
  NPP_CUDA_3_2 = 320,
  NPP_CUDA_3_5 = 350,
  NPP_CUDA_3_7 = 370,
  NPP_CUDA_5_0 = 500,
  NPP_CUDA_5_2 = 520,
  NPP_CUDA_5_3 = 530,
  NPP_CUDA_6_0 = 600 }
- enum NppiAxis {
  NPP_HORIZONTAL_AXIS,
  NPP_VERTICAL_AXIS,
  NPP_BOTH_AXIS }
- enum NppCmpOp {
  NPP_CMP_LESS,
  NPP_CMP_LESS_EQ,
  NPP_CMP_EQ,
  NPP_CMP_GREATER_EQ,
  NPP_CMP_GREATER }

- enum NppRoundMode {
  NPP_RND_NEAR,
  NPP_ROUND_NEAREST_TIES_TO_EVEN = NPP_RND_NEAR,
  NPP_RND_FINANCIAL,
  NPP_ROUND_NEAREST_TIES_AWAY_FROM_ZERO = NPP_RND_FINANCIAL,
  NPP_RND_ZERO,
  NPP_ROUND_TOWARD_ZERO = NPP_RND_ZERO }

  Rounding Modes.

- enum NppiBorderType {
  NPP_BORDER_UNDEFINED = 0,
  NPP_BORDER_NONE = NPP_BORDER_UNDEFINED,
  NPP_BORDER_CONSTANT = 1,
  NPP_BORDER_REPLICATE = 2,
  NPP_BORDER_WRAP = 3,
  NPP_BORDER_MIRROR = 4 }
- enum NppHintAlgorithm {
  NPP_ALG_HINT_NONE,
  NPP_ALG_HINT_FAST,
  NPP_ALG_HINT_ACCURATE }
- enum NppiAlphaOp {
  NPPI_OP_ALPHA_OVER,
  NPPI_OP_ALPHA_IN,
  NPPI_OP_ALPHA_OUT,
  NPPI_OP_ALPHA_ATOP,
  NPPI_OP_ALPHA_XOR,
  NPPI_OP_ALPHA_PLUS,
  NPPI_OP_ALPHA_OVER_PREMUL,
  NPPI_OP_ALPHA_IN_PREMUL,
  NPPI_OP_ALPHA_OUT_PREMUL,
  NPPI_OP_ALPHA_ATOP_PREMUL,
  NPPI_OP_ALPHA_XOR_PREMUL,
  NPPI_OP_ALPHA_PLUS_PREMUL,
  NPPI_OP_ALPHA_PREMUL }
- enum NppsZCType {
  nppZCR,
  nppZCXor,
  nppZCC }
- enum NppiHuffmanTableType {
  nppiDCTable,
  nppiACTable }

- enum NppiNorm {
  nppiNormInf = 0,
  nppiNormL1 = 1,
  nppiNormL2 = 2 }

7.2.1 Define Documentation

7.2.1.1 #define NPP_MAX_16S (32767)

Maximum 16-bit signed integer.

7.2.1.2 #define NPP_MAX_16U (65535)

Maximum 16-bit unsigned integer.

7.2.1.3 #define NPP_MAX_32S (2147483647)

Maximum 32-bit signed integer.

7.2.1.4 #define NPP_MAX_32U (4294967295U)

Maximum 32-bit unsigned integer.

7.2.1.5 #define NPP_MAX_64S (9223372036854775807LL)

Maximum 64-bit signed integer.

7.2.1.6 #define NPP_MAX_64U (18446744073709551615ULL)

Maximum 64-bit unsigned integer.

7.2.1.7 #define NPP_MAX_8S (127)

Maximum 8-bit signed integer.

7.2.1.8 #define NPP_MAX_8U (255)

Maximum 8-bit unsigned integer.

7.2.1.9 #define NPP_MAXABS_32F (3.402823466e+38f)

Largest positive 32-bit floating point value.

7.2.1.10 #define NPP_MAXABS_64F (1.7976931348623158e+308)

Largest positive 64-bit floating point value.

7.2.1.11 #define NPP_MIN_16S (-32767 - 1)

Minimum 16-bit signed integer.

7.2.1.12 #define NPP_MIN_16U (0)

Minimum 16-bit unsigned integer.

7.2.1.13 #define NPP_MIN_32S (-2147483647 - 1)

Minimum 32-bit signed integer.

7.2.1.14 #define NPP_MIN_32U (0)

Minimum 32-bit unsigned integer.

7.2.1.15 #define NPP_MIN_64S (-9223372036854775807LL - 1)

Minimum 64-bit signed integer.

7.2.1.16 #define NPP_MIN_64U (0)

Minimum 64-bit unsigned integer.

7.2.1.17 #define NPP_MIN_8S (-127 - 1)

Minimum 8-bit signed integer.

7.2.1.18 #define NPP_MIN_8U (0)

Minimum 8-bit unsigned integer.

7.2.1.19 #define NPP_MINABS_32F (1.175494351e-38f)

Smallest positive 32-bit floating point value.

7.2.1.20 #define NPP_MINABS_64F (2.2250738585072014e-308)

Smallest positive 64-bit floating point value.

7.2.2 Enumeration Type Documentation

7.2.2.1 enum NppCmpOp

Enumerator:

NPP_CMP_LESS

NPP_CMP_LESS_EQ
NPP_CMP_EQ
NPP_CMP_GREATER_EQ
NPP_CMP_GREATER

7.2.2.2 enum NppGpuComputeCapability

Enumerator:

NPP_CUDA_UNKNOWN_VERSION Indicates that the compute-capability query failed.
NPP_CUDA_NOT_CAPABLE Indicates that no CUDA capable device was found.
NPP_CUDA_1_0 Indicates that CUDA 1.0 capable device is machine's default device.
NPP_CUDA_1_1 Indicates that CUDA 1.1 capable device is machine's default device.
NPP_CUDA_1_2 Indicates that CUDA 1.2 capable device is machine's default device.
NPP_CUDA_1_3 Indicates that CUDA 1.3 capable device is machine's default device.
NPP_CUDA_2_0 Indicates that CUDA 2.0 capable device is machine's default device.
NPP_CUDA_2_1 Indicates that CUDA 2.1 capable device is machine's default device.
NPP_CUDA_3_0 Indicates that CUDA 3.0 capable device is machine's default device.
NPP_CUDA_3_2 Indicates that CUDA 3.2 capable device is machine's default device.
NPP_CUDA_3_5 Indicates that CUDA 3.5 capable device is machine's default device.
NPP_CUDA_3_7 Indicates that CUDA 3.7 capable device is machine's default device.
NPP_CUDA_5_0 Indicates that CUDA 5.0 capable device is machine's default device.
NPP_CUDA_5_2 Indicates that CUDA 5.2 capable device is machine's default device.
NPP_CUDA_5_3 Indicates that CUDA 5.3 capable device is machine's default device.
NPP_CUDA_6_0 Indicates that CUDA 6.0 or better is machine's default device.

7.2.2.3 enum NppHintAlgorithm

Enumerator:

NPP_ALG_HINT_NONE
NPP_ALG_HINT_FAST
NPP_ALG_HINT_ACCURATE

7.2.2.4 enum NppiAlphaOp

Enumerator:

NPPI_OP_ALPHA_OVER
NPPI_OP_ALPHA_IN
NPPI_OP_ALPHA_OUT
NPPI_OP_ALPHA_ATOP
NPPI_OP_ALPHA_XOR

NPPI_OP_ALPHA_PLUS
NPPI_OP_ALPHA_OVER_PREMUL
NPPI_OP_ALPHA_IN_PREMUL
NPPI_OP_ALPHA_OUT_PREMUL
NPPI_OP_ALPHA_ATOP_PREMUL
NPPI_OP_ALPHA_XOR_PREMUL
NPPI_OP_ALPHA_PLUS_PREMUL
NPPI_OP_ALPHA_PREMUL

7.2.2.5 enum NppiAxis

Enumerator:

NPP_HORIZONTAL_AXIS
NPP_VERTICAL_AXIS
NPP_BOTH_AXIS

7.2.2.6 enum NppiBayerGridPosition

Bayer Grid Position Registration.

Enumerator:

NPPI_BAYER_BGGR Default registration position.
NPPI_BAYER_RGGB
NPPI_BAYER_GBRG
NPPI_BAYER_GRBG

7.2.2.7 enum NppiBorderType

Enumerator:

NPP_BORDER_UNDEFINED
NPP_BORDER_NONE
NPP_BORDER_CONSTANT
NPP_BORDER_REPLICATE
NPP_BORDER_WRAP
NPP_BORDER_MIRROR

7.2.2.8 enum NppiDifferentialKernel

Differential Filter types.

Enumerator:

NPP_FILTER_SOBEL
NPP_FILTER_SCHARR

7.2.2.9 enum NppiHuffmanTableType

Enumerator:

nppiDCTable DC Table.

nppiACTable AC Table.

7.2.2.10 enum NppiInterpolationMode

Filtering methods.

Enumerator:

NPPI_INTER_UNDEFINED

NPPI_INTER_NN Nearest neighbor filtering.

NPPI_INTER_LINEAR Linear interpolation.

NPPI_INTER_CUBIC Cubic interpolation.

NPPI_INTER_CUBIC2P_BSPLINE Two-parameter cubic filter (B=1, C=0).

NPPI_INTER_CUBIC2P_CATMULLROM Two-parameter cubic filter (B=0, C=1/2).

NPPI_INTER_CUBIC2P_B05C03 Two-parameter cubic filter (B=1/2, C=3/10).

NPPI_INTER_SUPER Super sampling.

NPPI_INTER_LANCZOS Lanczos filtering.

NPPI_INTER_LANCZOS3_ADVANCED Generic Lanczos filtering with order 3.

NPPI_SMOOTH_EDGE Smooth edge filtering.

7.2.2.11 enum NppiMaskSize

Fixed filter-kernel sizes.

Enumerator:

NPP_MASK_SIZE_1_X_3

NPP_MASK_SIZE_1_X_5

NPP_MASK_SIZE_3_X_1

NPP_MASK_SIZE_5_X_1

NPP_MASK_SIZE_3_X_3

NPP_MASK_SIZE_5_X_5

NPP_MASK_SIZE_7_X_7

NPP_MASK_SIZE_9_X_9

NPP_MASK_SIZE_11_X_11

NPP_MASK_SIZE_13_X_13

NPP_MASK_SIZE_15_X_15

7.2.2.12 enum NppiNorm

Enumerator:

nppiNormInf maximum

nppiNormL1 sum

nppiNormL2 square root of sum of squares

7.2.2.13 enum NppRoundMode

Rounding Modes.

The enumerated rounding modes are used by a large number of NPP primitives to allow the user to specify the method by which fractional values are converted to integer values. Also see Rounding Modes.

For NPP release 5.5 new names for the three rounding modes are introduced that are based on the naming conventions for rounding modes set forth in the IEEE-754 floating-point standard. Developers are encouraged to use the new, longer names to be future proof as the legacy names will be deprecated in subsequent NPP releases.

Enumerator:

NPP_RND_NEAR Round to the nearest even integer.

All fractional numbers are rounded to their nearest integer. The ambiguous cases (i.e. <integer>.5) are rounded to the closest even integer. E.g.

- roundNear(0.5) = 0
- roundNear(0.6) = 1
- roundNear(1.5) = 2
- roundNear(-1.5) = -2

NPP_ROUND_NEAREST_TIES_TO_EVEN Alias name for NPP_RND_NEAR.

NPP_RND_FINANCIAL Round according to financial rule.

All fractional numbers are rounded to their nearest integer. The ambiguous cases (i.e. <integer>.5) are rounded away from zero. E.g.

- roundFinancial(0.4) = 0
- roundFinancial(0.5) = 1
- roundFinancial(-1.5) = -2

NPP_ROUND_NEAREST_TIES_AWAY_FROM_ZERO Alias name for NPP_RND_FINANCIAL.

NPP_RND_ZERO Round towards zero (truncation).

All fractional numbers of the form <integer>.<decimals> are truncated to <integer>.

- roundZero(1.5) = 1
- roundZero(1.9) = 1
- roundZero(-2.5) = -2

NPP_ROUND_TOWARD_ZERO Alias name for NPP_RND_ZERO.

7.2.2.14 enum NppStatus

Error Status Codes.

Almost all NPP function return error-status information using these return codes. Negative return codes indicate errors, positive return codes indicate warnings, a return code of 0 indicates success.

Enumerator:

NPP_NOT_SUPPORTED_MODE_ERROR

NPP_INVALID_HOST_POINTER_ERROR

NPP_INVALID_DEVICE_POINTER_ERROR

NPP_LUT_PALETTE_BITSIZE_ERROR

NPP_ZC_MODE_NOT_SUPPORTED_ERROR ZeroCrossing mode not supported.

NPP_NOT_SUFFICIENT_COMPUTE_CAPABILITY

NPP_TEXTURE_BIND_ERROR

NPP_WRONG_INTERSECTION_ROI_ERROR

NPP_HAAR_CLASSIFIER_PIXEL_MATCH_ERROR

NPP_MEMFREE_ERROR

NPP_MEMSET_ERROR

NPP_MEMCPY_ERROR

NPP_ALIGNMENT_ERROR

NPP_CUDA_KERNEL_EXECUTION_ERROR

NPP_ROUND_MODE_NOT_SUPPORTED_ERROR Unsupported round mode.

NPP_QUALITY_INDEX_ERROR Image pixels are constant for quality index.

NPP_RESIZE_NO_OPERATION_ERROR One of the output image dimensions is less than 1 pixel.

NPP_OVERFLOW_ERROR Number overflows the upper or lower limit of the data type.

NPP_NOT_EVEN_STEP_ERROR Step value is not pixel multiple.

NPP_HISTOGRAM_NUMBER_OF_LEVELS_ERROR Number of levels for histogram is less than 2.

NPP_LUT_NUMBER_OF_LEVELS_ERROR Number of levels for LUT is less than 2.

NPP_CORRUPTED_DATA_ERROR Processed data is corrupted.

NPP_CHANNEL_ORDER_ERROR Wrong order of the destination channels.

NPP_ZERO_MASK_VALUE_ERROR All values of the mask are zero.

NPP_QUADRANGLE_ERROR The quadrangle is nonconvex or degenerates into triangle, line or point.

NPP_RECTANGLE_ERROR Size of the rectangle region is less than or equal to 1.

NPP_COEFFICIENT_ERROR Unallowable values of the transformation coefficients.

NPP_NUMBER_OF_CHANNELS_ERROR Bad or unsupported number of channels.

NPP_COI_ERROR Channel of interest is not 1, 2, or 3.

NPP_DIVISOR_ERROR Divisor is equal to zero.

NPP_CHANNEL_ERROR Illegal channel index.

NPP_STRIDE_ERROR Stride is less than the row length.

NPP_ANCHOR_ERROR Anchor point is outside mask.

NPP_MASK_SIZE_ERROR Lower bound is larger than upper bound.

NPP_RESIZE_FACTOR_ERROR

NPP_INTERPOLATION_ERROR

NPP_MIRROR_FLIP_ERROR

NPP_MOMENT_00_ZERO_ERROR

NPP_THRESHOLD_NEGATIVE_LEVEL_ERROR

NPP_THRESHOLD_ERROR

NPP_CONTEXT_MATCH_ERROR

NPP_FFT_FLAG_ERROR

NPP_FFT_ORDER_ERROR

NPP_STEP_ERROR Step is less or equal zero.

NPP_SCALE_RANGE_ERROR

NPP_DATA_TYPE_ERROR

NPP_OUT_OFF_RANGE_ERROR

NPP_DIVIDE_BY_ZERO_ERROR

NPP_MEMORY_ALLOCATION_ERR

NPP_NULL_POINTER_ERROR

NPP_RANGE_ERROR

NPP_SIZE_ERROR

NPP_BAD_ARGUMENT_ERROR

NPP_NO_MEMORY_ERROR

NPP_NOT_IMPLEMENTED_ERROR

NPP_ERROR

NPP_ERROR_RESERVED

NPP_NO_ERROR Error free operation.

NPP_SUCCESS Successful operation (same as NPP_NO_ERROR).

NPP_NO_OPERATION_WARNING Indicates that no operation was performed.

NPP_DIVIDE_BY_ZERO_WARNING Divisor is zero however does not terminate the execution.

NPP_AFFINE_QUAD_INCORRECT_WARNING Indicates that the quadrangle passed to one of affine warping functions doesn't have necessary properties.

First 3 vertices are used, the fourth vertex discarded.

NPP_WRONG_INTERSECTION_ROI_WARNING The given ROI has no interestion with either the source or destination ROI.

Thus no operation was performed.

NPP_WRONG_INTERSECTION_QUAD_WARNING The given quadrangle has no intersection with either the source or destination ROI.

Thus no operation was performed.

NPP_DOUBLE_SIZE_WARNING Image size isn't multiple of two.

Indicates that in case of 422/411/420 sampling the ROI width/height was modified for proper processing.

NPP_MISALIGNED_DST_ROI_WARNING Speed reduction due to uncoalesced memory accesses warning.

7.2.2.15 enum NppsZCType

Enumerator:

nppZCR sign change

nppZCXor sign change XOR

nppZCC sign change count_0

7.3 Basic NPP Data Types

Data Structures

- struct NPP_ALIGN_8

  Complex Number This struct represents an unsigned int complex number.

- struct NPP_ALIGN_16

  Complex Number This struct represents a long long complex number.

Typedefs

- typedef unsigned char Npp8u

  8-bit unsigned chars

- typedef signed char Npp8s

  8-bit signed chars

- typedef unsigned short Npp16u

  16-bit unsigned integers

- typedef short Npp16s

  16-bit signed integers

- typedef unsigned int Npp32u

  32-bit unsigned integers

- typedef int Npp32s

  32-bit signed integers

- typedef unsigned long long Npp64u

  64-bit unsigned integers

- typedef long long Npp64s

  64-bit signed integers

- typedef float Npp32f

  32-bit (IEEE) floating-point numbers

- typedef double Npp64f

  64-bit floating-point numbers

- typedef struct NPP_ALIGN_8 Npp32uc

  Complex Number This struct represents an unsigned int complex number.

- typedef struct NPP_ALIGN_8 Npp32sc

  Complex Number This struct represents a signed int complex number.

- typedef struct NPP_ALIGN_8 Npp32fc

  Complex Number This struct represents a single floating-point complex number.

- typedef struct NPP_ALIGN_16 Npp64sc

  Complex Number This struct represents a long long complex number.

- typedef struct NPP_ALIGN_16 Npp64fc

  Complex Number This struct represents a double floating-point complex number.

Functions

- struct __align__ (2)

  Complex Number This struct represents an unsigned char complex number.

- struct __align__ (4)

  Complex Number This struct represents an unsigned short complex number.

Variables

- Npp8uc
- Npp16uc
- Npp16sc

7.3.1 Typedef Documentation

7.3.1.1 typedef short Npp16s

16-bit signed integers

7.3.1.2 typedef unsigned short Npp16u

16-bit unsigned integers

7.3.1.3 typedef float Npp32f

32-bit (IEEE) floating-point numbers

7.3.1.4 typedef struct NPP_ALIGN_8 Npp32fc

Complex Number This struct represents a single floating-point complex number.

7.3.1.5 typedef int Npp32s

32-bit signed integers

7.3.1.6 typedef struct NPP_ALIGN_8 Npp32sc

Complex Number This struct represents a signed int complex number.

7.3.1.7 typedef unsigned int Npp32u

32-bit unsigned integers

7.3.1.8 typedef struct NPP_ALIGN_8 Npp32uc

Complex Number This struct represents an unsigned int complex number.

7.3.1.9 typedef double Npp64f

64-bit floating-point numbers

7.3.1.10 typedef struct NPP_ALIGN_16 Npp64fc

Complex Number This struct represents a double floating-point complex number.

7.3.1.11 typedef long long Npp64s

64-bit signed integers

7.3.1.12 typedef struct NPP_ALIGN_16 Npp64sc

Complex Number This struct represents a long long complex number.

7.3.1.13 typedef unsigned long long Npp64u

64-bit unsigned integers

7.3.1.14 typedef signed char Npp8s

8-bit signed chars

7.3.1.15 typedef unsigned char Npp8u

8-bit unsigned chars

7.3.2 Function Documentation

7.3.2.1 struct __align__ (4) `[read]`

Complex Number This struct represents an unsigned short complex number.

Complex Number This struct represents a short complex number.

< Real part

< Imaginary part

< Real part

< Imaginary part

7.3.2.2 struct __align__ (2) `[read]`

Complex Number This struct represents an unsigned char complex number.

< Real part

< Imaginary part

7.3.3 Variable Documentation

7.3.3.1 Npp16sc

7.3.3.2 Npp16uc

7.3.3.3 Npp8uc

7.4 Statistical Operations

Primitives for computing the statistical properties of an image.

Modules

- Sum

  Primitives for computing the sum of all the pixel values in an image.

- Min

  Primitives for computing the minimal pixel value of an image.

- MinIndx

  Primitives for computing the minimal value and its indices (X and Y coordinates) of an image.

- Max

  Primitives for computing the maximal pixel value of an image.

- MaxIndx

  Primitives for computing the maximal value and its indices (X and Y coordinates) of an image.

- MinMax

  Primitives for computing both the minimal and the maximal values of an image.

- MinMaxIndx

  Primitives for computing the minimal and the maximal values with their indices (X and Y coordinates) of an image.

- Mean

  Primitives for computing the arithmetic mean of all the pixel values in an image.

- Mean_StdDev

  Primitives for computing both the arithmetic mean and the standard deviation of an image.

- Image Norms

  Primitives for computing the norms of an image, the norms of difference, and the relative errors of two images.

- DotProd

  Primitives for computing the dot product of two images.

- CountInRange.

  Primitives for computing the amount of pixels that fall into the specified intensity range.

- MaxEvery

  Primitives for computing the maximal value of the pixel pair from two images.

- MinEvery

  Primitives for computing the minimal value of the pixel pair from two images.

- Integral

  Primitives for computing the integral image of a given image.

- SqrIntegral

  Primitives for computing both the integral and the squared integral images of a given image.

- RectStdDev

  Primitives for computing the standard deviation of the integral images.

- HistogramEven

  Primitives for computing the histogram of an image with evenly distributed bins.

- HistogramRange

  Primitives for computing the histogram of an image within specified ranges.

- Image Proximity

  Primitives for computing the proximity measure between a source image and a template image.

- Image Quality Index

  Primitives for computing the image quality index of two images.

- MaximumError

  Primitives for computing the maximum error between two images.

- AverageError

  Primitives for computing the average error between two images.

- MaximumRelativeError

  Primitives for computing the maximum relative error between two images.

- AverageRelativeError

  Primitives for computing the average relative error between two images.

NormDiffInfGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the NormDiff_Inf primitives.

- NppStatus nppiMaximumErrorGetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_8u_C1R.

- NppStatus nppiMaximumErrorGetBufferHostSize_8s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_8s_C1R.

- NppStatus nppiMaximumErrorGetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

Buffer size for nppiMaximumError_16u_C1R.

- NppStatus nppiMaximumErrorGetBufferHostSize_16s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_16s_C1R.

- NppStatus nppiMaximumErrorGetBufferHostSize_16sc_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_16sc_C1R.

- NppStatus nppiMaximumErrorGetBufferHostSize_32u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_32u_C1R.

- NppStatus nppiMaximumErrorGetBufferHostSize_32s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_32s_C1R.

- NppStatus nppiMaximumErrorGetBufferHostSize_32sc_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_32sc_C1R.

- NppStatus nppiMaximumErrorGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_32f_C1R.

- NppStatus nppiMaximumErrorGetBufferHostSize_32fc_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_32fc_C1R.

- NppStatus nppiMaximumErrorGetBufferHostSize_64f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_64f_C1R.

- NppStatus nppiMaximumErrorGetBufferHostSize_8u_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_8u_C2R.

- NppStatus nppiMaximumErrorGetBufferHostSize_8s_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_8s_C2R.

- NppStatus nppiMaximumErrorGetBufferHostSize_16u_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_16u_C2R.

- NppStatus nppiMaximumErrorGetBufferHostSize_16s_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_16s_C2R.

- NppStatus nppiMaximumErrorGetBufferHostSize_16sc_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_16sc_C2R.

- NppStatus nppiMaximumErrorGetBufferHostSize_32u_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_32u_C2R.

- NppStatus nppiMaximumErrorGetBufferHostSize_32s_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_32s_C2R.

- NppStatus nppiMaximumErrorGetBufferHostSize_32sc_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_32sc_C2R.

- NppStatus nppiMaximumErrorGetBufferHostSize_32f_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_32f_C2R.

- NppStatus nppiMaximumErrorGetBufferHostSize_32fc_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_32fc_C2R.

- NppStatus nppiMaximumErrorGetBufferHostSize_64f_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_64f_C2R.

- NppStatus nppiMaximumErrorGetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_8u_C3R.

- NppStatus nppiMaximumErrorGetBufferHostSize_8s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_8s_C3R.

- NppStatus nppiMaximumErrorGetBufferHostSize_16u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_16u_C3R.

- NppStatus nppiMaximumErrorGetBufferHostSize_16s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_16s_C3R.

- NppStatus nppiMaximumErrorGetBufferHostSize_16sc_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_16sc_C3R.

- NppStatus nppiMaximumErrorGetBufferHostSize_32u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_32u_C3R.

- NppStatus nppiMaximumErrorGetBufferHostSize_32s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_32s_C3R.

- NppStatus nppiMaximumErrorGetBufferHostSize_32sc_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_32sc_C3R.

- NppStatus nppiMaximumErrorGetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_32f_C3R.

- NppStatus nppiMaximumErrorGetBufferHostSize_32fc_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_32fc_C3R.

- NppStatus nppiMaximumErrorGetBufferHostSize_64f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_64f_C3R.

- NppStatus nppiMaximumErrorGetBufferHostSize_8u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_8u_C4R.

- NppStatus nppiMaximumErrorGetBufferHostSize_8s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_8s_C4R.

- NppStatus nppiMaximumErrorGetBufferHostSize_16u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_16u_C4R.

- NppStatus nppiMaximumErrorGetBufferHostSize_16s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_16s_C4R.

- NppStatus nppiMaximumErrorGetBufferHostSize_16sc_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_16sc_C4R.

- NppStatus nppiMaximumErrorGetBufferHostSize_32u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_32u_C4R.

- NppStatus nppiMaximumErrorGetBufferHostSize_32s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_32s_C4R.

- NppStatus nppiMaximumErrorGetBufferHostSize_32sc_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

Buffer size for nppiMaximumError_32sc_C4R.

- NppStatus nppiMaximumErrorGetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_32f_C4R.

- NppStatus nppiMaximumErrorGetBufferHostSize_32fc_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_32fc_C4R.

- NppStatus nppiMaximumErrorGetBufferHostSize_64f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumError_64f_C4R.

NormDiffInfGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the NormDiff_Inf primitives.

- NppStatus nppiAverageErrorGetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_8u_C1R.

- NppStatus nppiAverageErrorGetBufferHostSize_8s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_8s_C1R.

- NppStatus nppiAverageErrorGetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_16u_C1R.

- NppStatus nppiAverageErrorGetBufferHostSize_16s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_16s_C1R.

- NppStatus nppiAverageErrorGetBufferHostSize_16sc_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_16sc_C1R.

- NppStatus nppiAverageErrorGetBufferHostSize_32u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_32u_C1R.

- NppStatus nppiAverageErrorGetBufferHostSize_32s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_32s_C1R.

- NppStatus nppiAverageErrorGetBufferHostSize_32sc_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_32sc_C1R.

- NppStatus nppiAverageErrorGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_32f_C1R.

- NppStatus nppiAverageErrorGetBufferHostSize_32fc_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_32fc_C1R.

- NppStatus nppiAverageErrorGetBufferHostSize_64f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_64f_C1R.

- NppStatus nppiAverageErrorGetBufferHostSize_8u_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_8u_C2R.

- NppStatus nppiAverageErrorGetBufferHostSize_8s_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_8s_C2R.

- NppStatus nppiAverageErrorGetBufferHostSize_16u_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_16u_C2R.

- NppStatus nppiAverageErrorGetBufferHostSize_16s_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_16s_C2R.

- NppStatus nppiAverageErrorGetBufferHostSize_16sc_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_16sc_C2R.

- NppStatus nppiAverageErrorGetBufferHostSize_32u_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_32u_C2R.

- NppStatus nppiAverageErrorGetBufferHostSize_32s_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_32s_C2R.

- NppStatus nppiAverageErrorGetBufferHostSize_32sc_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_32sc_C2R.

- NppStatus nppiAverageErrorGetBufferHostSize_32f_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_32f_C2R.

- NppStatus nppiAverageErrorGetBufferHostSize_32fc_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_32fc_C2R.

- NppStatus nppiAverageErrorGetBufferHostSize_64f_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_64f_C2R.

- NppStatus nppiAverageErrorGetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_8u_C3R.

- NppStatus nppiAverageErrorGetBufferHostSize_8s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_8s_C3R.

- NppStatus nppiAverageErrorGetBufferHostSize_16u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_16u_C3R.

- NppStatus nppiAverageErrorGetBufferHostSize_16s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_16s_C3R.

- NppStatus nppiAverageErrorGetBufferHostSize_16sc_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_16sc_C3R.

- NppStatus nppiAverageErrorGetBufferHostSize_32u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_32u_C3R.

- NppStatus nppiAverageErrorGetBufferHostSize_32s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_32s_C3R.

- NppStatus nppiAverageErrorGetBufferHostSize_32sc_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_32sc_C3R.

- NppStatus nppiAverageErrorGetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_32f_C3R.

- NppStatus nppiAverageErrorGetBufferHostSize_32fc_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_32fc_C3R.

- NppStatus nppiAverageErrorGetBufferHostSize_64f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_64f_C3R.

- NppStatus nppiAverageErrorGetBufferHostSize_8u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_8u_C4R.

- NppStatus nppiAverageErrorGetBufferHostSize_8s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_8s_C4R.

- NppStatus nppiAverageErrorGetBufferHostSize_16u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_16u_C4R.

- NppStatus nppiAverageErrorGetBufferHostSize_16s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_16s_C4R.

- NppStatus nppiAverageErrorGetBufferHostSize_16sc_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_16sc_C4R.

- NppStatus nppiAverageErrorGetBufferHostSize_32u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_32u_C4R.

- NppStatus nppiAverageErrorGetBufferHostSize_32s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_32s_C4R.

- NppStatus nppiAverageErrorGetBufferHostSize_32sc_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_32sc_C4R.

- NppStatus nppiAverageErrorGetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_32f_C4R.

- NppStatus nppiAverageErrorGetBufferHostSize_32fc_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_32fc_C4R.

- NppStatus nppiAverageErrorGetBufferHostSize_64f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageError_64f_C4R.

NormDiffInfGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the NormDiff_Inf primitives.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_8u_C1R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_8s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_8s_C1R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_16u_C1R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_16s_C1R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16sc_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_16sc_C1R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_32u_C1R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_32s_C1R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32sc_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_32sc_C1R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_32f_C1R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32fc_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_32fc_C1R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_64f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_64f_C1R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_8u_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_8u_C2R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_8s_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_8s_C2R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16u_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_16u_C2R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16s_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

Buffer size for nppiMaximumRelativeError_16s_C2R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16sc_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_16sc_C2R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32u_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_32u_C2R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32s_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_32s_C2R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32sc_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_32sc_C2R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32f_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_32f_C2R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32fc_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_32fc_C2R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_64f_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_64f_C2R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_8u_C3R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_8s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_8s_C3R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_16u_C3R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_16s_C3R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16sc_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_16sc_C3R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_32u_C3R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_32s_C3R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32sc_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_32sc_C3R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_32f_C3R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32fc_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_32fc_C3R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_64f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_64f_C3R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_8u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_8u_C4R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_8s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_8s_C4R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_16u_C4R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_16s_C4R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16sc_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_16sc_C4R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_32u_C4R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_32s_C4R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32sc_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_32sc_C4R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_32f_C4R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32fc_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_32fc_C4R.

- NppStatus nppiMaximumRelativeErrorGetBufferHostSize_64f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMaximumRelativeError_64f_C4R.

NormDiffInfGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the NormDiff_Inf primitives.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_8u_C1R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_8s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_8s_C1R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_16u_C1R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_16s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_16s_C1R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_16sc_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_16sc_C1R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_32u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_32u_C1R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_32s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_32s_C1R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_32sc_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_32sc_C1R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_32f_C1R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_32fc_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_32fc_C1R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_64f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_64f_C1R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_8u_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_8u_C2R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_8s_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_8s_C2R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_16u_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_16u_C2R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_16s_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_16s_C2R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_16sc_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_16sc_C2R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_32u_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_32u_C2R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_32s_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_32s_C2R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_32sc_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_32sc_C2R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_32f_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

Buffer size for nppiAverageRelativeError_32f_C2R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_32fc_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_32fc_C2R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_64f_C2R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_64f_C2R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_8u_C3R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_8s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_8s_C3R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_16u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_16u_C3R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_16s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_16s_C3R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_16sc_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_16sc_C3R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_32u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_32u_C3R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_32s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_32s_C3R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_32sc_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_32sc_C3R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_32f_C3R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_32fc_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_32fc_C3R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_64f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_64f_C3R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_8u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_8u_C4R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_8s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_8s_C4R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_16u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_16u_C4R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_16s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_16s_C4R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_16sc_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_16sc_C4R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_32u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_32u_C4R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_32s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_32s_C4R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_32sc_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_32sc_C4R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_32f_C4R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_32fc_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_32fc_C4R.

- NppStatus nppiAverageRelativeErrorGetBufferHostSize_64f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiAverageRelativeError_64f_C4R.

7.4.1 Detailed Description

Primitives for computing the statistical properties of an image.

Some statistical primitives also require scratch buffer during the computation. For details, please refer to Scratch Buffer and Host Pointer.

These functions can be found in either the nppi or nppist libraries. Linking to only the sub-libraries that you use can significantly save link time, application load time, and CUDA runtime startup time when using dynamic libraries.

7.4.2 Function Documentation

7.4.2.1 NppStatus nppiAverageErrorGetBufferHostSize_16s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.2 NppStatus nppiAverageErrorGetBufferHostSize_16s_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_16s_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.3 NppStatus nppiAverageErrorGetBufferHostSize_16s_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.4 NppStatus nppiAverageErrorGetBufferHostSize_16s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.5 NppStatus nppiAverageErrorGetBufferHostSize_16sc_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_16sc_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.6 NppStatus nppiAverageErrorGetBufferHostSize_16sc_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_16sc_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.7 NppStatus nppiAverageErrorGetBufferHostSize_16sc_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_16sc_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.8 NppStatus nppiAverageErrorGetBufferHostSize_16sc_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_16sc_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.9 NppStatus nppiAverageErrorGetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.10 NppStatus nppiAverageErrorGetBufferHostSize_16u_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_16u_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.11 NppStatus nppiAverageErrorGetBufferHostSize_16u_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageError_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.12 NppStatus nppiAverageErrorGetBufferHostSize_16u_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageError_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.13 NppStatus nppiAverageErrorGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageError_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.14 NppStatus nppiAverageErrorGetBufferHostSize_32f_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_32f_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.15 NppStatus nppiAverageErrorGetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.16 NppStatus nppiAverageErrorGetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.17 NppStatus nppiAverageErrorGetBufferHostSize_32fc_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_32fc_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.18 NppStatus nppiAverageErrorGetBufferHostSize_32fc_C2R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageError_32fc_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.19 NppStatus nppiAverageErrorGetBufferHostSize_32fc_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageError_32fc_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.20 NppStatus nppiAverageErrorGetBufferHostSize_32fc_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageError_32fc_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.21 NppStatus nppiAverageErrorGetBufferHostSize_32s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_32s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.22 NppStatus nppiAverageErrorGetBufferHostSize_32s_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_32s_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.23 NppStatus nppiAverageErrorGetBufferHostSize_32s_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_32s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.24 NppStatus nppiAverageErrorGetBufferHostSize_32s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_32s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.25 NppStatus nppiAverageErrorGetBufferHostSize_32sc_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageError_32sc_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.26 NppStatus nppiAverageErrorGetBufferHostSize_32sc_C2R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageError_32sc_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.27 NppStatus nppiAverageErrorGetBufferHostSize_32sc_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageError_32sc_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.28 NppStatus nppiAverageErrorGetBufferHostSize_32sc_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageError_32sc_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.29 NppStatus nppiAverageErrorGetBufferHostSize_32u_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageError_32u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.30 NppStatus nppiAverageErrorGetBufferHostSize_32u_C2R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageError_32u_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.31 NppStatus nppiAverageErrorGetBufferHostSize_32u_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageError_32u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.32 NppStatus nppiAverageErrorGetBufferHostSize_32u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_32u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.33 NppStatus nppiAverageErrorGetBufferHostSize_64f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_64f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.34 NppStatus nppiAverageErrorGetBufferHostSize_64f_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_64f_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.35 NppStatus nppiAverageErrorGetBufferHostSize_64f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_64f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.36 NppStatus nppiAverageErrorGetBufferHostSize_64f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_64f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.37 NppStatus nppiAverageErrorGetBufferHostSize_8s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_8s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.38 NppStatus nppiAverageErrorGetBufferHostSize_8s_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_8s_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.39 NppStatus nppiAverageErrorGetBufferHostSize_8s_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_8s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.40 NppStatus nppiAverageErrorGetBufferHostSize_8s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_8s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.41 NppStatus nppiAverageErrorGetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.42 NppStatus nppiAverageErrorGetBufferHostSize_8u_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_8u_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.43 NppStatus nppiAverageErrorGetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.44 NppStatus nppiAverageErrorGetBufferHostSize_8u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageError_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.45 NppStatus nppiAverageRelativeErrorGetBufferHostSize_16s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.46 NppStatus nppiAverageRelativeErrorGetBufferHostSize_16s_C2R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageRelativeError_16s_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.47 NppStatus nppiAverageRelativeErrorGetBufferHostSize_16s_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageRelativeError_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.48 NppStatus nppiAverageRelativeErrorGetBufferHostSize_16s_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageRelativeError_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.49 NppStatus nppiAverageRelativeErrorGetBufferHostSize_16sc_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_16sc_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.50 NppStatus nppiAverageRelativeErrorGetBufferHostSize_16sc_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_16sc_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.51 NppStatus nppiAverageRelativeErrorGetBufferHostSize_16sc_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_16sc_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.52 NppStatus nppiAverageRelativeErrorGetBufferHostSize_16sc_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_16sc_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.53 NppStatus nppiAverageRelativeErrorGetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.54 NppStatus nppiAverageRelativeErrorGetBufferHostSize_16u_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_16u_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.55 NppStatus nppiAverageRelativeErrorGetBufferHostSize_16u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.56 NppStatus nppiAverageRelativeErrorGetBufferHostSize_16u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.57 NppStatus nppiAverageRelativeErrorGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.58 NppStatus nppiAverageRelativeErrorGetBufferHostSize_32f_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_32f_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.59 NppStatus nppiAverageRelativeErrorGetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.60 NppStatus nppiAverageRelativeErrorGetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.61 NppStatus nppiAverageRelativeErrorGetBufferHostSize_32fc_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_32fc_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.62 NppStatus nppiAverageRelativeErrorGetBufferHostSize_32fc_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_32fc_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.63 NppStatus nppiAverageRelativeErrorGetBufferHostSize_32fc_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_32fc_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.64 NppStatus nppiAverageRelativeErrorGetBufferHostSize_32fc_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_32fc_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.65 NppStatus nppiAverageRelativeErrorGetBufferHostSize_32s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_32s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.66 NppStatus nppiAverageRelativeErrorGetBufferHostSize_32s_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_32s_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.67 NppStatus nppiAverageRelativeErrorGetBufferHostSize_32s_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageRelativeError_32s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.68 NppStatus nppiAverageRelativeErrorGetBufferHostSize_32s_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageRelativeError_32s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.69 NppStatus nppiAverageRelativeErrorGetBufferHostSize_32sc_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageRelativeError_32sc_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.70 NppStatus nppiAverageRelativeErrorGetBufferHostSize_32sc_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_32sc_C2R.

Parameters:

- ***oSizeROI*** Region-of-Interest (ROI).
- ***hpBufferSize*** Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.71 NppStatus nppiAverageRelativeErrorGetBufferHostSize_32sc_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_32sc_C3R.

Parameters:

- ***oSizeROI*** Region-of-Interest (ROI).
- ***hpBufferSize*** Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.72 NppStatus nppiAverageRelativeErrorGetBufferHostSize_32sc_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_32sc_C4R.

Parameters:

- ***oSizeROI*** Region-of-Interest (ROI).
- ***hpBufferSize*** Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.73 NppStatus nppiAverageRelativeErrorGetBufferHostSize_32u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_32u_C1R.

Parameters:

- ***oSizeROI*** Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.74 NppStatus nppiAverageRelativeErrorGetBufferHostSize_32u_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_32u_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.75 NppStatus nppiAverageRelativeErrorGetBufferHostSize_32u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_32u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.76 NppStatus nppiAverageRelativeErrorGetBufferHostSize_32u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_32u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.77 NppStatus nppiAverageRelativeErrorGetBufferHostSize_64f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_64f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer*. Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.78 NppStatus nppiAverageRelativeErrorGetBufferHostSize_64f_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_64f_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer*. Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.79 NppStatus nppiAverageRelativeErrorGetBufferHostSize_64f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_64f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer*. Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.80 NppStatus nppiAverageRelativeErrorGetBufferHostSize_64f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_64f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.81 NppStatus nppiAverageRelativeErrorGetBufferHostSize_8s_C1R (NppiSize *oSizeROI*, int $*$ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_8s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.82 NppStatus nppiAverageRelativeErrorGetBufferHostSize_8s_C2R (NppiSize *oSizeROI*, int $*$ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_8s_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.83 NppStatus nppiAverageRelativeErrorGetBufferHostSize_8s_C3R (NppiSize *oSizeROI*, int $*$ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_8s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.84 NppStatus nppiAverageRelativeErrorGetBufferHostSize_8s_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageRelativeError_8s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.85 NppStatus nppiAverageRelativeErrorGetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageRelativeError_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.86 NppStatus nppiAverageRelativeErrorGetBufferHostSize_8u_C2R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageRelativeError_8u_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.87 NppStatus nppiAverageRelativeErrorGetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiAverageRelativeError_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.88 NppStatus nppiAverageRelativeErrorGetBufferHostSize_8u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiAverageRelativeError_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.89 NppStatus nppiMaximumErrorGetBufferHostSize_16s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.90 NppStatus nppiMaximumErrorGetBufferHostSize_16s_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_16s_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.91 NppStatus nppiMaximumErrorGetBufferHostSize_16s_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.92 NppStatus nppiMaximumErrorGetBufferHostSize_16s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.93 NppStatus nppiMaximumErrorGetBufferHostSize_16sc_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_16sc_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.94 NppStatus nppiMaximumErrorGetBufferHostSize_16sc_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_16sc_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.95 NppStatus nppiMaximumErrorGetBufferHostSize_16sc_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_16sc_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.96 NppStatus nppiMaximumErrorGetBufferHostSize_16sc_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_16sc_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.97 NppStatus nppiMaximumErrorGetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.98 NppStatus nppiMaximumErrorGetBufferHostSize_16u_C2R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMaximumError_16u_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.99 NppStatus nppiMaximumErrorGetBufferHostSize_16u_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMaximumError_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.100 NppStatus nppiMaximumErrorGetBufferHostSize_16u_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMaximumError_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.101 NppStatus nppiMaximumErrorGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMaximumError_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.102 NppStatus nppiMaximumErrorGetBufferHostSize_32f_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_32f_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.103 NppStatus nppiMaximumErrorGetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.104 NppStatus nppiMaximumErrorGetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.105 NppStatus nppiMaximumErrorGetBufferHostSize_32fc_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_32fc_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.106 NppStatus nppiMaximumErrorGetBufferHostSize_32fc_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_32fc_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.107 NppStatus nppiMaximumErrorGetBufferHostSize_32fc_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_32fc_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.108 NppStatus nppiMaximumErrorGetBufferHostSize_32fc_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_32fc_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.109 NppStatus nppiMaximumErrorGetBufferHostSize_32s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_32s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.110 NppStatus nppiMaximumErrorGetBufferHostSize_32s_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_32s_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.111 NppStatus nppiMaximumErrorGetBufferHostSize_32s_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_32s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.112 NppStatus nppiMaximumErrorGetBufferHostSize_32s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_32s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.113 NppStatus nppiMaximumErrorGetBufferHostSize_32sc_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_32sc_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.114 NppStatus nppiMaximumErrorGetBufferHostSize_32sc_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_32sc_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.115 NppStatus nppiMaximumErrorGetBufferHostSize_32sc_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_32sc_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.116 NppStatus nppiMaximumErrorGetBufferHostSize_32sc_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_32sc_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.117 NppStatus nppiMaximumErrorGetBufferHostSize_32u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_32u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.118 NppStatus nppiMaximumErrorGetBufferHostSize_32u_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_32u_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.119 NppStatus nppiMaximumErrorGetBufferHostSize_32u_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMaximumError_32u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.120 NppStatus nppiMaximumErrorGetBufferHostSize_32u_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMaximumError_32u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.121 NppStatus nppiMaximumErrorGetBufferHostSize_64f_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMaximumError_64f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.122 NppStatus nppiMaximumErrorGetBufferHostSize_64f_C2R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMaximumError_64f_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.123 NppStatus nppiMaximumErrorGetBufferHostSize_64f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_64f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.124 NppStatus nppiMaximumErrorGetBufferHostSize_64f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_64f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.125 NppStatus nppiMaximumErrorGetBufferHostSize_8s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_8s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.126 NppStatus nppiMaximumErrorGetBufferHostSize_8s_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_8s_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.127 NppStatus nppiMaximumErrorGetBufferHostSize_8s_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_8s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.128 NppStatus nppiMaximumErrorGetBufferHostSize_8s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_8s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.129 NppStatus nppiMaximumErrorGetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.130 NppStatus nppiMaximumErrorGetBufferHostSize_8u_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_8u_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.131 NppStatus nppiMaximumErrorGetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.132 NppStatus nppiMaximumErrorGetBufferHostSize_8u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumError_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.133 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.134 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16s_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_16s_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.135 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16s_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.136 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.137 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16sc_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_16sc_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.138 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16sc_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_16sc_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.139 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16sc_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_16sc_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.140 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16sc_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_16sc_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.141 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.142 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16u_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_16u_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.143 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.144 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_16u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.145 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.146 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32f_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_32f_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.147 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.148 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.149 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32fc_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_32fc_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.150 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32fc_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_32fc_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.151 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32fc_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_32fc_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.152 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32fc_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_32fc_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.153 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_32s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.154 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32s_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_32s_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.155 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32s_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_32s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.156 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_32s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.157 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32sc_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_32sc_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.158 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32sc_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_32sc_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.159 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32sc_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_32sc_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.160 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32sc_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_32sc_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.161 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_32u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.162 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32u_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_32u_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.163 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_32u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.164 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_32u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_32u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.165 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_64f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_64f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.166 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_64f_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_64f_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.167 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_64f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_64f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.168 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_64f_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_64f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.169 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_8s_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_8s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.170 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_8s_C2R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_8s_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.171 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_8s_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_8s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.172 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_8s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_8s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.173 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.174 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_8u_C2R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_8u_C2R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.175 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.4.2.176 NppStatus nppiMaximumRelativeErrorGetBufferHostSize_8u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMaximumRelativeError_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.5 Sum

Primitives for computing the sum of all the pixel values in an image.

Sum

Given an image $pSrc$ with width W and height H, the sum will be computed as

$$Sum = \sum_{j=0}^{H-1} \sum_{i=0}^{W-1} pSrc(j, i)$$

All the results are stored in a 64-bit double precision format, except for two primitives nppiSum_8u64s_C1R and nppiSum_8u64s_C4R.

The sum functions require additional scratch buffer for computations.

- NppStatus nppiSum_8u_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f ∗pSum)

  One-channel 8-bit unsigned image sum.

- NppStatus nppiSum_8u64s_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64s ∗pSum)

  One-channel 8-bit unsigned image sum.

- NppStatus nppiSum_16u_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f ∗pSum)

  One-channel 16-bit unsigned image sum.

- NppStatus nppiSum_16s_C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f ∗pSum)

  One-channel 16-bit signed image sum.

- NppStatus nppiSum_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f ∗pSum)

  One-channel 32-bit floating point image sum.

- NppStatus nppiSum_8u_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aSum[3])

  Three-channel 8-bit unsigned image sum.

- NppStatus nppiSum_16u_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aSum[3])

  Three-channel 16-bit unsigned image sum.

- NppStatus nppiSum_16s_C3R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aSum[3])

  Three-channel 16-bit signed image sum.

- NppStatus nppiSum_32f_C3R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aSum[3])

  Three-channel 32-bit floating point image sum.

- NppStatus nppiSum_8u_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aSum[3])

  Four-channel 8-bit unsigned image sum ignoring alpha channel.

- NppStatus nppiSum_16u_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aSum[3])

  Four-channel 16-bit unsigned image sum ignoring alpha channel.

- NppStatus nppiSum_16s_AC4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aSum[3])

  Four-channel 16-bit signed image sum ignoring alpha channel.

- NppStatus nppiSum_32f_AC4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aSum[3])

  Four-channel 32-bit floating point image sum ignoring alpha channel.

- NppStatus nppiSum_8u_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aSum[4])

  Four-channel 8-bit unsigned image sum.

- NppStatus nppiSum_8u64s_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64s aSum[4])

  Four-channel 8-bit unsigned image sum.

- NppStatus nppiSum_16u_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aSum[4])

  Four-channel 16-bit unsigned image sum.

- NppStatus nppiSum_16s_C4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aSum[4])

  Four-channel 16-bit signed image sum.

- NppStatus nppiSum_32f_C4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aSum[4])

  Four-channel 32-bit floating point image sum.

SumGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the sum primitives.

- NppStatus nppiSumGetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiSum_8u_C1R.

- NppStatus nppiSumGetBufferHostSize_8u64s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiSum_8u64s_C1R.

- NppStatus nppiSumGetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiSum_16u_C1R.

- NppStatus nppiSumGetBufferHostSize_16s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiSum_16s_C1R.
- NppStatus nppiSumGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiSum_32f_C1R.
- NppStatus nppiSumGetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiSum_8u_C3R.
- NppStatus nppiSumGetBufferHostSize_16u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiSum_16u_C3R.
- NppStatus nppiSumGetBufferHostSize_16s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiSum_16s_C3R.
- NppStatus nppiSumGetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiSum_32f_C3R.
- NppStatus nppiSumGetBufferHostSize_8u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiSum_8u_AC4R.
- NppStatus nppiSumGetBufferHostSize_16u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiSum_16u_AC4R.
- NppStatus nppiSumGetBufferHostSize_16s_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiSum_16s_AC4R.
- NppStatus nppiSumGetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiSum_32f_AC4R.
- NppStatus nppiSumGetBufferHostSize_8u64s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiSum_8u64s_C4R.
- NppStatus nppiSumGetBufferHostSize_8u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiSum_8u_C4R.
- NppStatus nppiSumGetBufferHostSize_16u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiSum_16u_C4R.
- NppStatus nppiSumGetBufferHostSize_16s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiSum_16s_C4R.
- NppStatus nppiSumGetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiSum_32f_C4R.

7.5.1 Detailed Description

Primitives for computing the sum of all the pixel values in an image.

7.5.2 Function Documentation

7.5.2.1 NppStatus nppiSum_16s_AC4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aSum*[3])

Four-channel 16-bit signed image sum ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSumGetBufferHostSize_16s_AC4R to determine the minium number of bytes required.

aSum Array that contains computed sum for each channel (alpha channel is not computed).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.2.2 NppStatus nppiSum_16s_C1R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pSum*)

One-channel 16-bit signed image sum.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSumGetBufferHostSize_16s_C1R to determine the minium number of bytes required.

pSum Pointer to the computed sum.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.2.3 NppStatus nppiSum_16s_C3R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aSum*[3])

Three-channel 16-bit signed image sum.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSumGetBufferHostSize_16s_C3R to determine the minium number of bytes required.

aSum Array that contains computed sum for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.2.4 NppStatus nppiSum_16s_C4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aSum*[4])

Four-channel 16-bit signed image sum.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiSumGetBufferHostSize_16s_C4R to determine the minium number of bytes required.

aSum Array that contains computed sum for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.2.5 NppStatus nppiSum_16u_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aSum*[3])

Four-channel 16-bit unsigned image sum ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSumGetBufferHostSize_16u_AC4R to determine the minium number of bytes required.

aSum Array that contains computed sum for each channel (alpha channel is not computed).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.2.6 NppStatus nppiSum_16u_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pSum*)

One-channel 16-bit unsigned image sum.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSumGetBufferHostSize_16u_C1R to determine the minium number of bytes required.

pSum Pointer to the computed sum.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.2.7 NppStatus nppiSum_16u_C3R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aSum*[3])

Three-channel 16-bit unsigned image sum.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSumGetBufferHostSize_16u_C3R to determine the minium number of bytes required.

aSum Array that contains computed sum for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.2.8 NppStatus nppiSum_16u_C4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aSum*[4])

Four-channel 16-bit unsigned image sum.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiSumGetBufferHostSize_16u_C4R to determine the minium number of bytes required.

aSum Array that contains computed sum for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.2.9 NppStatus nppiSum_32f_AC4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aSum*[3])

Four-channel 32-bit floating point image sum ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiSumGetBufferHostSize_32f_AC4R to determine the minium number of bytes required.

aSum Array that contains computed sum for each channel (alpha channel is not computed).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.2.10 NppStatus nppiSum_32f_C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pSum*)

One-channel 32-bit floating point image sum.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiSumGetBufferHostSize_32f_C1R to determine the minium number of bytes required.

pSum Pointer to the computed sum.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.2.11 NppStatus nppiSum_32f_C3R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aSum*[3])

Three-channel 32-bit floating point image sum.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSumGetBufferHostSize_32f_C3R to determine the minium number of bytes required.

aSum Array that contains computed sum for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.2.12 NppStatus nppiSum_32f_C4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aSum*[4])

Four-channel 32-bit floating point image sum.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiSumGetBufferHostSize_32f_C4R to determine the minium number of bytes required.

aSum Array that contains computed sum for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.2.13 NppStatus nppiSum_8u64s_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64s ∗ *pSum*)

One-channel 8-bit unsigned image sum.

The result is 64-bit long long integer.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSumGetBufferHostSize_8u64s_C1R to determine the minium number of bytes required.

pSum Pointer to the computed sum.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.2.14 NppStatus nppiSum_8u64s_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64s *aSum*[4])

Four-channel 8-bit unsigned image sum.

The result is 64-bit long long integer.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiSumGetBufferHostSize_8u64s_C4R to determine the minium number of bytes required.

aSum Array that contains computed sum for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.2.15 NppStatus nppiSum_8u_AC4R (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u $*$ *pDeviceBuffer*, Npp64f *aSum*[3])

Four-channel 8-bit unsigned image sum ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSumGetBufferHostSize_8u_AC4R to determine the minium number of bytes required.

aSum Array that contains computed sum for each channel (alpha channel is not computed).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.2.16 NppStatus nppiSum_8u_C1R (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u $*$ *pDeviceBuffer*, Npp64f $*$ *pSum*)

One-channel 8-bit unsigned image sum.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSumGetBufferHostSize_8u_C1R to determine the minium number of bytes required.

pSum Pointer to the computed sum.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.2.17 NppStatus nppiSum_8u_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aSum*[3])

Three-channel 8-bit unsigned image sum.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSumGetBufferHostSize_8u_C3R to determine the minium number of bytes required.

aSum Array that contains computed sum for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.2.18 NppStatus nppiSum_8u_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aSum*[4])

Four-channel 8-bit unsigned image sum.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiSumGetBufferHostSize_8u_C4R to determine the minium number of bytes required.

aSum Array that contains computed sum for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.2.19 NppStatus nppiSumGetBufferHostSize_16s_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiSum_16s_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.5.2.20 NppStatus nppiSumGetBufferHostSize_16s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiSum_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.5.2.21 NppStatus nppiSumGetBufferHostSize_16s_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiSum_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.5.2.22 NppStatus nppiSumGetBufferHostSize_16s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiSum_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.5.2.23 NppStatus nppiSumGetBufferHostSize_16u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiSum_16u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.5.2.24 NppStatus nppiSumGetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiSum_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.5.2.25 NppStatus nppiSumGetBufferHostSize_16u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiSum_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.5.2.26 NppStatus nppiSumGetBufferHostSize_16u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiSum_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.5.2.27 NppStatus nppiSumGetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiSum_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.5.2.28 NppStatus nppiSumGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiSum_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.5.2.29 NppStatus nppiSumGetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiSum_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.5.2.30 NppStatus nppiSumGetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiSum_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.5.2.31 NppStatus nppiSumGetBufferHostSize_8u64s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiSum_8u64s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.5.2.32 NppStatus nppiSumGetBufferHostSize_8u64s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiSum_8u64s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.5.2.33 NppStatus nppiSumGetBufferHostSize_8u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiSum_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.5.2.34 NppStatus nppiSumGetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiSum_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.5.2.35 NppStatus nppiSumGetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiSum_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.5.2.36 NppStatus nppiSumGetBufferHostSize_8u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiSum_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.6 Min

Primitives for computing the minimal pixel value of an image.

Min

The scratch buffer is required by the min functions.

- NppStatus nppiMin_8u_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp8u ∗pMin)

  One-channel 8-bit unsigned image min.

- NppStatus nppiMin_16u_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16u ∗pMin)

  One-channel 16-bit unsigned image min.

- NppStatus nppiMin_16s_C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16s ∗pMin)

  One-channel 16-bit signed image min.

- NppStatus nppiMin_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp32f ∗pMin)

  One-channel 32-bit floating point image min.

- NppStatus nppiMin_8u_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp8u aMin[3])

  Three-channel 8-bit unsigned image min.

- NppStatus nppiMin_16u_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16u aMin[3])

  Three-channel 16-bit unsigned image min.

- NppStatus nppiMin_16s_C3R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16s aMin[3])

  Three-channel 16-bit signed image min.

- NppStatus nppiMin_32f_C3R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp32f aMin[3])

  Three-channel 32-bit floating point image min.

- NppStatus nppiMin_8u_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp8u aMin[4])

  Four-channel 8-bit unsigned image min.

- NppStatus nppiMin_16u_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16u aMin[4])

  Four-channel 16-bit unsigned image min.

- NppStatus nppiMin_16s_C4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16s aMin[4])

Four-channel 16-bit signed image min.

- NppStatus nppiMin_32f_C4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp32f aMin[4])

  Four-channel 32-bit floating point image min.

- NppStatus nppiMin_8u_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp8u aMin[3])

  Four-channel 8-bit unsigned image min ignoring alpha channel.

- NppStatus nppiMin_16u_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16u aMin[3])

  Four-channel 16-bit unsigned image min ignoring alpha channel.

- NppStatus nppiMin_16s_AC4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16s aMin[3])

  Four-channel 16-bit signed image min ignoring alpha channel.

- NppStatus nppiMin_32f_AC4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp32f aMin[3])

  Four-channel 32-bit floating point image min ignoring alpha channel.

MinGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the min primitives.

- NppStatus nppiMinGetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMin_8u_C1R.

- NppStatus nppiMinGetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMin_16u_C1R.

- NppStatus nppiMinGetBufferHostSize_16s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMin_16s_C1R.

- NppStatus nppiMinGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMin_32f_C1R.

- NppStatus nppiMinGetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMin_8u_C3R.

- NppStatus nppiMinGetBufferHostSize_16u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMin_16u_C3R.

- NppStatus nppiMinGetBufferHostSize_16s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMin_16s_C3R.

- NppStatus nppiMinGetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMin_32f_C3R.

- NppStatus nppiMinGetBufferHostSize_8u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMin_8u_C4R.
- NppStatus nppiMinGetBufferHostSize_16u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMin_16u_C4R.
- NppStatus nppiMinGetBufferHostSize_16s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMin_16s_C4R.
- NppStatus nppiMinGetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMin_32f_C4R.
- NppStatus nppiMinGetBufferHostSize_8u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMin_8u_AC4R.
- NppStatus nppiMinGetBufferHostSize_16u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMin_16u_AC4R.
- NppStatus nppiMinGetBufferHostSize_16s_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMin_16s_AC4R.
- NppStatus nppiMinGetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMin_32f_AC4R.

7.6.1 Detailed Description

Primitives for computing the minimal pixel value of an image.

7.6.2 Function Documentation

7.6.2.1 NppStatus nppiMin_16s_AC4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16s *aMin*[3])

Four-channel 16-bit signed image min ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinGetBufferHostSize_16s_AC4R to determine the minium number of bytes required.

aMin Array that contains the computed minimum results for each channel (alpha channel is not processed).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.2.2 NppStatus nppiMin_16s_C1R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16s ∗ *pMin*)

One-channel 16-bit signed image min.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinGetBufferHostSize_16s_C1R to determine the minium number of bytes required.

pMin Pointer to the computed minimum result.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.2.3 NppStatus nppiMin_16s_C3R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16s *aMin*[3])

Three-channel 16-bit signed image min.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinGetBufferHostSize_16s_C3R to determine the minium number of bytes required.

aMin Array that contains the computed minimum results for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.2.4 NppStatus nppiMin_16s_C4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16s *aMin*[4])

Four-channel 16-bit signed image min.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinGetBufferHostSize_16s_C4R to determine the minium number of bytes required.

aMin Array that contains the computed minimum results for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.2.5 NppStatus nppiMin_16u_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16u *aMin*[3])

Four-channel 16-bit unsigned image min ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinGetBufferHostSize_16u_AC4R to determine the minium number of bytes required.

aMin Array that contains the computed minimum results for each channel (alpha channel is not processed).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.2.6 NppStatus nppiMin_16u_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16u ∗ *pMin*)

One-channel 16-bit unsigned image min.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinGetBufferHostSize_16u_C1R to determine the minium number of bytes required.

pMin Pointer to the computed minimum result.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.2.7 NppStatus nppiMin_16u_C3R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16u *aMin*[3])

Three-channel 16-bit unsigned image min.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinGetBufferHostSize_16u_C3R to determine the minium number of bytes required.

aMin Array that contains the computed minimum results for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.2.8 NppStatus nppiMin_16u_C4R (const Npp16u * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u * *pDeviceBuffer*, Npp16u *aMin*[4])

Four-channel 16-bit unsigned image min.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinGetBufferHostSize_16u_C4R to determine the minium number of bytes required.

aMin Array that contains the computed minimum results for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.2.9 NppStatus nppiMin_32f_AC4R (const Npp32f * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u * *pDeviceBuffer*, Npp32f *aMin*[3])

Four-channel 32-bit floating point image min ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinGetBufferHostSize_32f_AC4R to determine the minium number of bytes required.

aMin Array that contains the computed minimum results for each channel (alpha channel is not processed).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.2.10 NppStatus nppiMin_32f_C1R (const Npp32f * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u * *pDeviceBuffer*, Npp32f * *pMin*)

One-channel 32-bit floating point image min.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinGetBufferHostSize_32f_C1R to determine the minium number of bytes required.

pMin Pointer to the computed minimum result.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.2.11 NppStatus nppiMin_32f_C3R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp32f *aMin*[3])

Three-channel 32-bit floating point image min.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinGetBufferHostSize_32f_C3R to determine the minium number of bytes required.

aMin Array that contains the computed minimum results for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.2.12 NppStatus nppiMin_32f_C4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp32f *aMin*[4])

Four-channel 32-bit floating point image min.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinGetBufferHostSize_32f_C4R to determine the minium number of bytes required.

aMin Array that contains the computed minimum results for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.2.13 NppStatus nppiMin_8u_AC4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp8u *aMin*[3])

Four-channel 8-bit unsigned image min ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinGetBufferHostSize_8u_AC4R to determine the minium number of bytes required.

aMin Array that contains the computed minimum results for each channel (alpha channel is not processed).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.2.14 NppStatus nppiMin_8u_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp8u ∗ *pMin*)

One-channel 8-bit unsigned image min.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinGetBufferHostSize_8u_C1R to determine the minium number of bytes required.

pMin Pointer to the computed minimum result.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.2.15 NppStatus nppiMin_8u_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp8u *aMin*[3])

Three-channel 8-bit unsigned image min.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinGetBufferHostSize_8u_C3R to determine the minium number of bytes required.

aMin Array that contains the computed minimum results for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.2.16 NppStatus nppiMin_8u_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp8u *aMin*[4])

Four-channel 8-bit unsigned image min.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinGetBufferHostSize_8u_C4R to determine the minium number of bytes required.

aMin Array that contains the computed minimum results for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.2.17 NppStatus nppiMinGetBufferHostSize_16s_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMin_16s_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.6.2.18 NppStatus nppiMinGetBufferHostSize_16s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMin_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.6.2.19 NppStatus nppiMinGetBufferHostSize_16s_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMin_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.6.2.20 NppStatus nppiMinGetBufferHostSize_16s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMin_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.6.2.21 NppStatus nppiMinGetBufferHostSize_16u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMin_16u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.6.2.22 NppStatus nppiMinGetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMin_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.6.2.23 NppStatus nppiMinGetBufferHostSize_16u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMin_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.6.2.24 NppStatus nppiMinGetBufferHostSize_16u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMin_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.6.2.25 NppStatus nppiMinGetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMin_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.6.2.26 NppStatus nppiMinGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMin_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.6.2.27 NppStatus nppiMinGetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMin_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.6.2.28 NppStatus nppiMinGetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMin_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.6.2.29 NppStatus nppiMinGetBufferHostSize_8u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMin_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.6.2.30 NppStatus nppiMinGetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMin_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.6.2.31 NppStatus nppiMinGetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMin_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.6.2.32 NppStatus nppiMinGetBufferHostSize_8u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMin_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.7 MinIndx

Primitives for computing the minimal value and its indices (X and Y coordinates) of an image.

MinIndx

If there are several minima in the selected ROI, the function returns one on the top leftmost position.

The scratch buffer is required by the functions.

- NppStatus nppiMinIndx_8u_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp8u ∗pMin, int ∗pIndexX, int ∗pIndexY)

  One-channel 8-bit unsigned image MinIndx.

- NppStatus nppiMinIndx_16u_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16u ∗pMin, int ∗pIndexX, int ∗pIndexY)

  One-channel 16-bit unsigned image MinIndx.

- NppStatus nppiMinIndx_16s_C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16s ∗pMin, int ∗pIndexX, int ∗pIndexY)

  One-channel 16-bit signed image MinIndx.

- NppStatus nppiMinIndx_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp32f ∗pMin, int ∗pIndexX, int ∗pIndexY)

  One-channel 32-bit floating point image MinIndx.

- NppStatus nppiMinIndx_8u_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp8u aMin[3], int aIndexX[3], int aIndexY[3])

  Three-channel 8-bit unsigned image MinIndx.

- NppStatus nppiMinIndx_16u_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16u aMin[3], int aIndexX[3], int aIndexY[3])

  Three-channel 16-bit unsigned image MinIndx.

- NppStatus nppiMinIndx_16s_C3R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16s aMin[3], int aIndexX[3], int aIndexY[3])

  Three-channel 16-bit signed image MinIndx.

- NppStatus nppiMinIndx_32f_C3R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp32f aMin[3], int aIndexX[3], int aIndexY[3])

  Three-channel 32-bit floating point image MinIndx.

- NppStatus nppiMinIndx_8u_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp8u aMin[4], int aIndexX[4], int aIndexY[4])

  Four-channel 8-bit unsigned image MinIndx.

- NppStatus nppiMinIndx_16u_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16u aMin[4], int aIndexX[4], int aIndexY[4])

  Four-channel 16-bit unsigned image MinIndx.

- NppStatus nppiMinIndx_16s_C4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16s aMin[4], int aIndexX[4], int aIndexY[4])

  Four-channel 16-bit signed image MinIndx.

- NppStatus nppiMinIndx_32f_C4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp32f aMin[4], int aIndexX[4], int aIndexY[4])

  Four-channel 32-bit floating point image MinIndx.

- NppStatus nppiMinIndx_8u_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp8u aMin[3], int aIndexX[3], int aIndexY[3])

  Four-channel 8-bit unsigned image MinIndx ignoring alpha channel.

- NppStatus nppiMinIndx_16u_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16u aMin[3], int aIndexX[3], int aIndexY[3])

  Four-channel 16-bit unsigned image MinIndx ignoring alpha channel.

- NppStatus nppiMinIndx_16s_AC4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16s aMin[3], int aIndexX[3], int aIndexY[3])

  Four-channel 16-bit signed image MinIndx ignoring alpha channel.

- NppStatus nppiMinIndx_32f_AC4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp32f aMin[3], int aIndexX[3], int aIndexY[3])

  Four-channel 32-bit floating point image MinIndx ignoring alpha channel.

MinIndxGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the MinIndx primitives.

- NppStatus nppiMinIndxGetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_8u_C1R.

- NppStatus nppiMinIndxGetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_16u_C1R.

- NppStatus nppiMinIndxGetBufferHostSize_16s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_16s_C1R.

- NppStatus nppiMinIndxGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_32f_C1R.

- NppStatus nppiMinIndxGetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_8u_C3R.

- NppStatus nppiMinIndxGetBufferHostSize_16u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_16u_C3R.

- NppStatus nppiMinIndxGetBufferHostSize_16s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_16s_C3R.

- NppStatus nppiMinIndxGetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_32f_C3R.

- NppStatus nppiMinIndxGetBufferHostSize_8u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_8u_C4R.

- NppStatus nppiMinIndxGetBufferHostSize_16u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_16u_C4R.

- NppStatus nppiMinIndxGetBufferHostSize_16s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_16s_C4R.

- NppStatus nppiMinIndxGetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_32f_C4R.

- NppStatus nppiMinIndxGetBufferHostSize_8u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_8u_AC4R.

- NppStatus nppiMinIndxGetBufferHostSize_16u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_8u_AC4R.

- NppStatus nppiMinIndxGetBufferHostSize_16s_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_16u_AC4R.

- NppStatus nppiMinIndxGetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_32f_AC4R.

7.7.1 Detailed Description

Primitives for computing the minimal value and its indices (X and Y coordinates) of an image.

7.7.2 Function Documentation

7.7.2.1 NppStatus nppiMinIndx_16s_AC4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16s *aMin*[3], int *aIndexX*[3], int *aIndexY*[3])

Four-channel 16-bit signed image MinIndx ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinIndxGetBufferHostSize_16s_AC4R to determine the minium number of bytes required.

aMin Array that contains the min values.

aIndexX Array that contains the X coordinates of the image min values.

aIndexY Array that contains the Y coordinates of the image min values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.2.2 NppStatus nppiMinIndx_16s_C1R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16s ∗ *pMin*, int ∗ *pIndexX*, int ∗ *pIndexY*)

One-channel 16-bit signed image MinIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinIndxGetBufferHostSize_16s_C1R to determine the minium number of bytes required.

pMin Pointer to the computed min result.

pIndexX Pointer to the X coordinate of the image min value.

pIndexY Pointer to the Y coordinate of the image min value.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.2.3 NppStatus nppiMinIndx_16s_C3R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16s *aMin*[3], int *aIndexX*[3], int *aIndexY*[3])

Three-channel 16-bit signed image MinIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinIndxGetBufferHostSize_16s_C3R to determine the minium number of bytes required.

aMin Array that contains the min values.

aIndexX Array that contains the X coordinates of the image min values.

aIndexY Array that contains the Y coordinates of the image min values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.2.4 NppStatus nppiMinIndx_16s_C4R (const Npp16s $*$ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u $*$ *pDeviceBuffer*, Npp16s *aMin*[4], int *aIndexX*[4], int *aIndexY*[4])

Four-channel 16-bit signed image MinIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinIndxGetBufferHostSize_16s_C4R to determine the minium number of bytes required.

aMin Array that contains the min values.

aIndexX Array that contains the X coordinates of the image min values.

aIndexY Array that contains the Y coordinates of the image min values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.2.5 NppStatus nppiMinIndx_16u_AC4R (const Npp16u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u $*$ *pDeviceBuffer*, Npp16u *aMin*[3], int *aIndexX*[3], int *aIndexY*[3])

Four-channel 16-bit unsigned image MinIndx ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinIndxGetBufferHostSize_16u_AC4R to determine the minium number of bytes required.

aMin Array that contains the min values.

aIndexX Array that contains the X coordinates of the image min values.

aIndexY Array that contains the Y coordinates of the image min values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.2.6 NppStatus nppiMinIndx_16u_C1R (const Npp16u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u $*$ *pDeviceBuffer*, Npp16u $*$ *pMin*, int $*$ *pIndexX*, int $*$ *pIndexY*)

One-channel 16-bit unsigned image MinIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinIndxGetBufferHostSize_16u_C1R to determine the minium number of bytes required.

pMin Pointer to the computed min result.

pIndexX Pointer to the X coordinate of the image min value.

pIndexY Pointer to the Y coordinate of the image min value.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.2.7 NppStatus nppiMinIndx_16u_C3R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16u *aMin*[3], int *aIndexX*[3], int *aIndexY*[3])

Three-channel 16-bit unsigned image MinIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinIndxGetBufferHostSize_16u_C3R to determine the minium number of bytes required.

aMin Array that contains the min values.

aIndexX Array that contains the X coordinates of the image min values.

aIndexY Array that contains the Y coordinates of the image min values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.2.8 NppStatus nppiMinIndx_16u_C4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16u *aMin*[4], int *aIndexX*[4], int *aIndexY*[4])

Four-channel 16-bit unsigned image MinIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinIndxGetBufferHostSize_16u_C4R to determine the minium number of bytes required.

aMin Array that contains the min values.

aIndexX Array that contains the X coordinates of the image min values.

aIndexY Array that contains the Y coordinates of the image min values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.2.9 NppStatus nppiMinIndx_32f_AC4R (const Npp32f $*$ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u $*$ *pDeviceBuffer*, Npp32f *aMin*[3], int *aIndexX*[3], int *aIndexY*[3])

Four-channel 32-bit floating point image MinIndx ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinIndxGetBufferHostSize_32f_AC4R to determine the minium number of bytes required.

aMin Array that contains the min values.

aIndexX Array that contains the X coordinates of the image min values.

aIndexY Array that contains the Y coordinates of the image min values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.2.10 NppStatus nppiMinIndx_32f_C1R (const Npp32f $*$ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u $*$ *pDeviceBuffer*, Npp32f $*$ *pMin*, int $*$ *pIndexX*, int $*$ *pIndexY*)

One-channel 32-bit floating point image MinIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinIndxGetBufferHostSize_32f_C1R to determine the minium number of bytes required.

pMin Pointer to the computed min result.

pIndexX Pointer to the X coordinate of the image min value.

pIndexY Pointer to the Y coordinate of the image min value.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.2.11 NppStatus nppiMinIndx_32f_C3R (const Npp32f $*$ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u $*$ *pDeviceBuffer*, Npp32f *aMin*[3], int *aIndexX*[3], int *aIndexY*[3])

Three-channel 32-bit floating point image MinIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinIndxGetBufferHostSize_32f_C3R to determine the minium number of bytes required.

aMin Array that contains the min values.

aIndexX Array that contains the X coordinates of the image min values.

aIndexY Array that contains the Y coordinates of the image min values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.2.12 NppStatus nppiMinIndx_32f_C4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp32f *aMin*[4], int *aIndexX*[4], int *aIndexY*[4])

Four-channel 32-bit floating point image MinIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinIndxGetBufferHostSize_32f_C4R to determine the minium number of bytes required.

aMin Array that contains the min values.

aIndexX Array that contains the X coordinates of the image min values.

aIndexY Array that contains the Y coordinates of the image min values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.2.13 NppStatus nppiMinIndx_8u_AC4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp8u *aMin*[3], int *aIndexX*[3], int *aIndexY*[3])

Four-channel 8-bit unsigned image MinIndx ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinIndxGetBufferHostSize_8u_AC4R to determine the minium number of bytes required.

aMin Array that contains the min values.

aIndexX Array that contains the X coordinates of the image min values.

aIndexY Array that contains the Y coordinates of the image min values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.2.14 NppStatus nppiMinIndx_8u_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp8u ∗ *pMin*, int ∗ *pIndexX*, int ∗ *pIndexY*)

One-channel 8-bit unsigned image MinIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinIndxGetBufferHostSize_8u_C1R to determine the minium number of bytes required.

pMin Pointer to the computed min result.

pIndexX Pointer to the X coordinate of the image min value.

pIndexY Ppointer to the Y coordinate of the image min value.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.2.15 NppStatus nppiMinIndx_8u_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp8u *aMin*[3], int *aIndexX*[3], int *aIndexY*[3])

Three-channel 8-bit unsigned image MinIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinIndxGetBufferHostSize_8u_C3R to determine the minium number of bytes required.

aMin Array that contains the min values.

aIndexX Array that contains the X coordinates of the image min values.

aIndexY Array that contains the Y coordinates of the image min values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.2.16 NppStatus nppiMinIndx_8u_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp8u *aMin*[4], int *aIndexX*[4], int *aIndexY*[4])

Four-channel 8-bit unsigned image MinIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMinIndxGetBufferHostSize_8u_C4R to determine the minium number of bytes required.

aMin Array that contains the min values.

aIndexX Array that contains the X coordinates of the image min values.

aIndexY Array that contains the Y coordinates of the image min values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.2.17 NppStatus nppiMinIndxGetBufferHostSize_16s_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_16u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.7.2.18 NppStatus nppiMinIndxGetBufferHostSize_16s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.7.2.19 NppStatus nppiMinIndxGetBufferHostSize_16s_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.7.2.20 NppStatus nppiMinIndxGetBufferHostSize_16s_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.7.2.21 NppStatus nppiMinIndxGetBufferHostSize_16u_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.7.2.22 NppStatus nppiMinIndxGetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.7.2.23 NppStatus nppiMinIndxGetBufferHostSize_16u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.7.2.24 NppStatus nppiMinIndxGetBufferHostSize_16u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.7.2.25 NppStatus nppiMinIndxGetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.7.2.26 NppStatus nppiMinIndxGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.7.2.27 NppStatus nppiMinIndxGetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.7.2.28 NppStatus nppiMinIndxGetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.7.2.29 NppStatus nppiMinIndxGetBufferHostSize_8u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.7.2.30 NppStatus nppiMinIndxGetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.7.2.31 NppStatus nppiMinIndxGetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.7.2.32 NppStatus nppiMinIndxGetBufferHostSize_8u_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMinIndx_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.8 Max

Primitives for computing the maximal pixel value of an image.

Max

The scratch buffer is required by the functions.

- NppStatus nppiMax_8u_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp8u ∗pMax)

  One-channel 8-bit unsigned image Max.

- NppStatus nppiMax_16u_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16u ∗pMax)

  One-channel 16-bit unsigned image Max.

- NppStatus nppiMax_16s_C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16s ∗pMax)

  One-channel 16-bit signed image Max.

- NppStatus nppiMax_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp32f ∗pMax)

  One-channel 32-bit floating point image Max.

- NppStatus nppiMax_8u_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp8u aMax[3])

  Three-channel 8-bit unsigned image Max.

- NppStatus nppiMax_16u_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16u aMax[3])

  Three-channel 16-bit unsigned image Max.

- NppStatus nppiMax_16s_C3R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16s aMax[3])

  Three-channel 16-bit signed image Max.

- NppStatus nppiMax_32f_C3R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp32f aMax[3])

  Three-channel 32-bit floating point image Max.

- NppStatus nppiMax_8u_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp8u aMax[4])

  Four-channel 8-bit unsigned image Max.

- NppStatus nppiMax_16u_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16u aMax[4])

  Four-channel 16-bit unsigned image Max.

- NppStatus nppiMax_16s_C4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16s aMax[4])

Four-channel 16-bit signed image Max.

- NppStatus nppiMax_32f_C4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp32f aMax[4])

  Four-channel 32-bit floating point image Max.

- NppStatus nppiMax_8u_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp8u aMax[3])

  Four-channel 8-bit unsigned image Max ignoring alpha channel.

- NppStatus nppiMax_16u_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16u aMax[3])

  Four-channel 16-bit unsigned image Max ignoring alpha channel.

- NppStatus nppiMax_16s_AC4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16s aMax[3])

  Four-channel 16-bit signed image Max ignoring alpha channel.

- NppStatus nppiMax_32f_AC4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp32f aMax[3])

  Four-channel 32-bit floating point image Max ignoring alpha channel.

MaxGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the Max primitives.

- NppStatus nppiMaxGetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMax_8u_C1R.

- NppStatus nppiMaxGetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMax_16u_C1R.

- NppStatus nppiMaxGetBufferHostSize_16s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMax_16s_C1R.

- NppStatus nppiMaxGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMax_32f_C1R.

- NppStatus nppiMaxGetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMax_8u_C3R.

- NppStatus nppiMaxGetBufferHostSize_16u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMax_16u_C3R.

- NppStatus nppiMaxGetBufferHostSize_16s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMax_16s_C3R.

- NppStatus nppiMaxGetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMax_32f_C3R.

- NppStatus nppiMaxGetBufferHostSize_8u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMax_8u_C4R.
- NppStatus nppiMaxGetBufferHostSize_16u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMax_16u_C4R.
- NppStatus nppiMaxGetBufferHostSize_16s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMax_16s_C4R.
- NppStatus nppiMaxGetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMax_32f_C4R.
- NppStatus nppiMaxGetBufferHostSize_8u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMax_8u_AC4R.
- NppStatus nppiMaxGetBufferHostSize_16u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMax_16u_AC4R.
- NppStatus nppiMaxGetBufferHostSize_16s_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMax_16s_AC4R.
- NppStatus nppiMaxGetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMax_32f_AC4R.

7.8.1 Detailed Description

Primitives for computing the maximal pixel value of an image.

7.8.2 Function Documentation

7.8.2.1 NppStatus nppiMax_16s_AC4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16s *aMax*[3])

Four-channel 16-bit signed image Max ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxGetBufferHostSize_16s_AC4R to determaxe the maxium number of bytes required.

aMax Array that contains the computed maximum results for each channel (alpha channel is not processed).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.2.2 NppStatus nppiMax_16s_C1R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16s ∗ *pMax*)

One-channel 16-bit signed image Max.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxGetBufferHostSize_16s_C1R to determaxe the maxium number of bytes required.

pMax Pointer to the computed maximum result.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.2.3 NppStatus nppiMax_16s_C3R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16s *aMax*[3])

Three-channel 16-bit signed image Max.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxGetBufferHostSize_16s_C3R to determaxe the maxium number of bytes required.

aMax Array that contains the computed maximum results for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.2.4 NppStatus nppiMax_16s_C4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16s *aMax*[4])

Four-channel 16-bit signed image Max.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxGetBufferHostSize_16s_C4R to determaxe the maxium number of bytes required.

aMax Array that contains the computed maximum results for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.2.5 NppStatus nppiMax_16u_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16u *aMax*[3])

Four-channel 16-bit unsigned image Max ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxGetBufferHostSize_16u_AC4R to determaxe the maxium number of bytes required.

aMax Array that contains the computed maximum results for each channel (alpha channel is not processed).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.2.6 NppStatus nppiMax_16u_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16u ∗ *pMax*)

One-channel 16-bit unsigned image Max.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxGetBufferHostSize_16u_C1R to determaxe the maxium number of bytes required.

pMax Pointer to the computed maximum result.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.2.7 NppStatus nppiMax_16u_C3R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16u *aMax*[3])

Three-channel 16-bit unsigned image Max.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxGetBufferHostSize_16u_C3R to determaxe the maxium number of bytes required.

aMax Array that contains the computed maximum results for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.2.8 NppStatus nppiMax_16u_C4R (const Npp16u * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u * *pDeviceBuffer*, Npp16u *aMax*[4])

Four-channel 16-bit unsigned image Max.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxGetBufferHostSize_16u_C4R to determaxe the maxium number of bytes required.

aMax Array that contains the computed maximum results for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.2.9 NppStatus nppiMax_32f_AC4R (const Npp32f * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u * *pDeviceBuffer*, Npp32f *aMax*[3])

Four-channel 32-bit floating point image Max ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxGetBufferHostSize_32f_AC4R to determaxe the maxium number of bytes required.

aMax Array that contains the computed maximum results for each channel (alpha channel is not processed).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.2.10 NppStatus nppiMax_32f_C1R (const Npp32f * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u * *pDeviceBuffer*, Npp32f * *pMax*)

One-channel 32-bit floating point image Max.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxGetBufferHostSize_32f_C1R to determaxe the maxium number of bytes required.

pMax Pointer to the computed maximum result.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.2.11 NppStatus nppiMax_32f_C3R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp32f *aMax*[3])

Three-channel 32-bit floating point image Max.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxGetBufferHostSize_32f_C3R to determaxe the maxium number of bytes required.

aMax Array that contains the computed maximum results for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.2.12 NppStatus nppiMax_32f_C4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp32f *aMax*[4])

Four-channel 32-bit floating point image Max.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxGetBufferHostSize_32f_C4R to determaxe the maxium number of bytes required.

aMax Array that contains the computed maximum results for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.2.13 NppStatus nppiMax_8u_AC4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp8u *aMax*[3])

Four-channel 8-bit unsigned image Max ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxGetBufferHostSize_8u_AC4R to determaxe the maxium number of bytes required.

aMax Array that contains the computed maximum results for each channel (alpha channel is not processed).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.2.14 NppStatus nppiMax_8u_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp8u ∗ *pMax*)

One-channel 8-bit unsigned image Max.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxGetBufferHostSize_8u_C1R to determaxe the maxium number of bytes required.

pMax Pointer to the computed maximum result.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.2.15 NppStatus nppiMax_8u_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp8u *aMax*[3])

Three-channel 8-bit unsigned image Max.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxGetBufferHostSize_8u_C3R to determaxe the maxium number of bytes required.

aMax Array that contains the computed maximum results for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.2.16 NppStatus nppiMax_8u_C4R (const Npp8u * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u * *pDeviceBuffer*, Npp8u *aMax*[4])

Four-channel 8-bit unsigned image Max.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxGetBufferHostSize_8u_C4R to determaxe the maxium number of bytes required.

aMax Array that contains the computed maximum results for each channel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.2.17 NppStatus nppiMaxGetBufferHostSize_16s_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMax_16s_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.8.2.18 NppStatus nppiMaxGetBufferHostSize_16s_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMax_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.8.2.19 NppStatus nppiMaxGetBufferHostSize_16s_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMax_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.8.2.20 NppStatus nppiMaxGetBufferHostSize_16s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMax_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.8.2.21 NppStatus nppiMaxGetBufferHostSize_16u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMax_16u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.8.2.22 NppStatus nppiMaxGetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMax_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.8.2.23 NppStatus nppiMaxGetBufferHostSize_16u_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMax_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.8.2.24 NppStatus nppiMaxGetBufferHostSize_16u_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMax_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.8.2.25 NppStatus nppiMaxGetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMax_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.8.2.26 NppStatus nppiMaxGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMax_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.8.2.27 NppStatus nppiMaxGetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMax_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.8.2.28 NppStatus nppiMaxGetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMax_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.8.2.29 NppStatus nppiMaxGetBufferHostSize_8u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMax_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.8.2.30 NppStatus nppiMaxGetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMax_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.8.2.31 NppStatus nppiMaxGetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMax_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.8.2.32 NppStatus nppiMaxGetBufferHostSize_8u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMax_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.9 MaxIndx

Primitives for computing the maximal value and its indices (X and Y coordinates) of an image.

MaxIndx

If there are several maxima in the selected region of interest, the function returns one on the top leftmost position.

The scratch buffer is required by the functions.

- NppStatus nppiMaxIndx_8u_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp8u ∗pMax, int ∗pIndexX, int ∗pIndexY)

  One-channel 8-bit unsigned image MaxIndx.

- NppStatus nppiMaxIndx_16u_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16u ∗pMax, int ∗pIndexX, int ∗pIndexY)

  One-channel 16-bit unsigned image MaxIndx.

- NppStatus nppiMaxIndx_16s_C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16s ∗pMax, int ∗pIndexX, int ∗pIndexY)

  One-channel 16-bit signed image MaxIndx.

- NppStatus nppiMaxIndx_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp32f ∗pMax, int ∗pIndexX, int ∗pIndexY)

  One-channel 32-bit floating point image MaxIndx.

- NppStatus nppiMaxIndx_8u_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp8u aMax[3], int aIndexX[3], int aIndexY[3])

  Three-channel 8-bit unsigned image MaxIndx.

- NppStatus nppiMaxIndx_16u_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16u aMax[3], int aIndexX[3], int aIndexY[3])

  Three-channel 16-bit unsigned image MaxIndx.

- NppStatus nppiMaxIndx_16s_C3R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16s aMax[3], int aIndexX[3], int aIndexY[3])

  Three-channel 16-bit signed image MaxIndx.

- NppStatus nppiMaxIndx_32f_C3R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp32f aMax[3], int aIndexX[3], int aIndexY[3])

  Three-channel 32-bit floating point image MaxIndx.

- NppStatus nppiMaxIndx_8u_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp8u aMax[4], int aIndexX[4], int aIndexY[4])

  Four-channel 8-bit unsigned image MaxIndx.

- NppStatus nppiMaxIndx_16u_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16u aMax[4], int aIndexX[4], int aIndexY[4])

  Four-channel 16-bit unsigned image MaxIndx.

- NppStatus nppiMaxIndx_16s_C4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16s aMax[4], int aIndexX[4], int aIndexY[4])

  Four-channel 16-bit signed image MaxIndx.

- NppStatus nppiMaxIndx_32f_C4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp32f aMax[4], int aIndexX[4], int aIndexY[4])

  Four-channel 32-bit floating point image MaxIndx.

- NppStatus nppiMaxIndx_8u_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp8u aMax[3], int aIndexX[3], int aIndexY[3])

  Four-channel 8-bit unsigned image MaxIndx ignoring alpha channel.

- NppStatus nppiMaxIndx_16u_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16u aMax[3], int aIndexX[3], int aIndexY[3])

  Four-channel 16-bit unsigned image MaxIndx ignoring alpha channel.

- NppStatus nppiMaxIndx_16s_AC4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp16s aMax[3], int aIndexX[3], int aIndexY[3])

  Four-channel 16-bit signed image MaxIndx ignoring alpha channel.

- NppStatus nppiMaxIndx_32f_AC4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp32f aMax[3], int aIndexX[3], int aIndexY[3])

  Four-channel 32-bit floating point image MaxIndx ignoring alpha channel.

MaxIndxGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the MaxIndx primitives.

- NppStatus nppiMaxIndxGetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_8u_C1R.

- NppStatus nppiMaxIndxGetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_16u_C1R.

- NppStatus nppiMaxIndxGetBufferHostSize_16s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_16s_C1R.

- NppStatus nppiMaxIndxGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_32f_C1R.

- NppStatus nppiMaxIndxGetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_8u_C3R.

- NppStatus nppiMaxIndxGetBufferHostSize_16u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_16u_C3R.

- NppStatus nppiMaxIndxGetBufferHostSize_16s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_16s_C3R.

- NppStatus nppiMaxIndxGetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_32f_C3R.

- NppStatus nppiMaxIndxGetBufferHostSize_8u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_8u_C4R.

- NppStatus nppiMaxIndxGetBufferHostSize_16u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_16u_C4R.

- NppStatus nppiMaxIndxGetBufferHostSize_16s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_16s_C4R.

- NppStatus nppiMaxIndxGetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_32f_C4R.

- NppStatus nppiMaxIndxGetBufferHostSize_8u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_8u_AC4R.

- NppStatus nppiMaxIndxGetBufferHostSize_16u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_8u_AC4R.

- NppStatus nppiMaxIndxGetBufferHostSize_16s_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_16u_AC4R.

- NppStatus nppiMaxIndxGetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_32f_AC4R.

7.9.1 Detailed Description

Primitives for computing the maximal value and its indices (X and Y coordinates) of an image.

7.9.2 Function Documentation

7.9.2.1 NppStatus nppiMaxIndx_16s_AC4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16s *aMax*[3], int *aIndexX*[3], int *aIndexY*[3])

Four-channel 16-bit signed image MaxIndx ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxIndxGetBufferHostSize_16s_AC4R to determaxe the maxium number of bytes required.

aMax Array that contains the max values.

aIndexX Array that contains the X coordinates of the image max values.

aIndexY Array that contains the Y coordinates of the image max values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.2.2 NppStatus nppiMaxIndx_16s_C1R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16s ∗ *pMax*, int ∗ *pIndexX*, int ∗ *pIndexY*)

One-channel 16-bit signed image MaxIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxIndxGetBufferHostSize_16s_C1R to determaxe the maxium number of bytes required.

pMax Pointer to the computed max result.

pIndexX Pointer to the X coordinate of the image max value.

pIndexY Pointer to the Y coordinate of the image max value.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.2.3 NppStatus nppiMaxIndx_16s_C3R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16s *aMax*[3], int *aIndexX*[3], int *aIndexY*[3])

Three-channel 16-bit signed image MaxIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxIndxGetBufferHostSize_16s_C3R to determaxe the maxium number of bytes required.

aMax Array that contains the max values.

aIndexX Array that contains the X coordinates of the image max values.

aIndexY Array that contains the Y coordinates of the image max values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.2.4 NppStatus nppiMaxIndx_16s_C4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16s *aMax*[4], int *aIndexX*[4], int *aIndexY*[4])

Four-channel 16-bit signed image MaxIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxIndxGetBufferHostSize_16s_C4R to determaxe the maxium number of bytes required.

aMax Array that contains the max values.

aIndexX Array that contains the X coordinates of the image max values.

aIndexY Array that contains the Y coordinates of the image max values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.2.5 NppStatus nppiMaxIndx_16u_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16u *aMax*[3], int *aIndexX*[3], int *aIndexY*[3])

Four-channel 16-bit unsigned image MaxIndx ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxIndxGetBufferHostSize_16u_AC4R to determaxe the maxium number of bytes required.

aMax Array that contains the max values.

aIndexX Array that contains the X coordinates of the image max values.

aIndexY Array that contains the Y coordinates of the image max values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.2.6 NppStatus nppiMaxIndx_16u_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp16u ∗ *pMax*, int ∗ *pIndexX*, int ∗ *pIndexY*)

One-channel 16-bit unsigned image MaxIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxIndxGetBufferHostSize_16u_C1R to determaxe the maxium number of bytes required.

pMax Pointer to the computed max result.

pIndexX Pointer to the X coordinate of the image max value.

pIndexY Pointer to the Y coordinate of the image max value.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.2.7 NppStatus nppiMaxIndx_16u_C3R (const Npp16u * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u * *pDeviceBuffer*, Npp16u *aMax*[3], int *aIndexX*[3], int *aIndexY*[3])

Three-channel 16-bit unsigned image MaxIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxIndxGetBufferHostSize_16u_C3R to determaxe the maxium number of bytes required.

aMax Array that contains the max values.

aIndexX Array that contains the X coordinates of the image max values.

aIndexY Array that contains the Y coordinates of the image max values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.2.8 NppStatus nppiMaxIndx_16u_C4R (const Npp16u * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u * *pDeviceBuffer*, Npp16u *aMax*[4], int *aIndexX*[4], int *aIndexY*[4])

Four-channel 16-bit unsigned image MaxIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxIndxGetBufferHostSize_16u_C4R to determaxe the maxium number of bytes required.

aMax Array that contains the max values.

aIndexX Array that contains the X coordinates of the image max values.

aIndexY Array that contains the Y coordinates of the image max values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.2.9 NppStatus nppiMaxIndx_32f_AC4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp32f *aMax*[3], int *aIndexX*[3], int *aIndexY*[3])

Four-channel 32-bit floating point image MaxIndx ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxIndxGetBufferHostSize_32f_AC4R to determaxe the maxium number of bytes required.

aMax Array that contains the max values.

aIndexX Array that contains the X coordinates of the image max values.

aIndexY Array that contains the Y coordinates of the image max values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.2.10 NppStatus nppiMaxIndx_32f_C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp32f ∗ *pMax*, int ∗ *pIndexX*, int ∗ *pIndexY*)

One-channel 32-bit floating point image MaxIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxIndxGetBufferHostSize_32f_C1R to determaxe the maxium number of bytes required.

pMax Pointer to the computed max result.

pIndexX Pointer to the X coordinate of the image max value.

pIndexY Pointer to the Y coordinate of the image max value.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.2.11 NppStatus nppiMaxIndx_32f_C3R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp32f *aMax*[3], int *aIndexX*[3], int *aIndexY*[3])

Three-channel 32-bit floating point image MaxIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxIndxGetBufferHostSize_32f_C3R to determaxe the maxium number of bytes required.

aMax Array that contains the max values.

aIndexX Array that contains the X coordinates of the image max values.

aIndexY Array that contains the Y coordinates of the image max values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.2.12 NppStatus nppiMaxIndx_32f_C4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp32f *aMax*[4], int *aIndexX*[4], int *aIndexY*[4])

Four-channel 32-bit floating point image MaxIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxIndxGetBufferHostSize_32f_C4R to determaxe the maxium number of bytes required.

aMax Array that contains the max values.

aIndexX Array that contains the X coordinates of the image max values.

aIndexY Array that contains the Y coordinates of the image max values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.2.13 NppStatus nppiMaxIndx_8u_AC4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp8u *aMax*[3], int *aIndexX*[3], int *aIndexY*[3])

Four-channel 8-bit unsigned image MaxIndx ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxIndxGetBufferHostSize_8u_AC4R to determaxe the maxium number of bytes required.

aMax Array that contains the max values.

aIndexX Array that contains the X coordinates of the image max values.

aIndexY Array that contains the Y coordinates of the image max values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.2.14 NppStatus nppiMaxIndx_8u_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp8u ∗ *pMax*, int ∗ *pIndexX*, int ∗ *pIndexY*)

One-channel 8-bit unsigned image MaxIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxIndxGetBufferHostSize_8u_C1R to determaxe the maxium number of bytes required.

pMax Pointer to the computed max result.

pIndexX Pointer to the X coordinate of the image max value.

pIndexY Ppointer to the Y coordinate of the image max value.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.2.15 NppStatus nppiMaxIndx_8u_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp8u *aMax*[3], int *aIndexX*[3], int *aIndexY*[3])

Three-channel 8-bit unsigned image MaxIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxIndxGetBufferHostSize_8u_C3R to determaxe the maxium number of bytes required.

aMax Array that contains the max values.

aIndexX Array that contains the X coordinates of the image max values.

aIndexY Array that contains the Y coordinates of the image max values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.2.16 NppStatus nppiMaxIndx_8u_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp8u *aMax*[4], int *aIndexX*[4], int *aIndexY*[4])

Four-channel 8-bit unsigned image MaxIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMaxIndxGetBufferHostSize_8u_C4R to determaxe the maxium number of bytes required.

aMax Array that contains the max values.

aIndexX Array that contains the X coordinates of the image max values.

aIndexY Array that contains the Y coordinates of the image max values.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.2.17 NppStatus nppiMaxIndxGetBufferHostSize_16s_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_16u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.9.2.18 NppStatus nppiMaxIndxGetBufferHostSize_16s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.9.2.19 NppStatus nppiMaxIndxGetBufferHostSize_16s_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.9.2.20 NppStatus nppiMaxIndxGetBufferHostSize_16s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.9.2.21 NppStatus nppiMaxIndxGetBufferHostSize_16u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.9.2.22 NppStatus nppiMaxIndxGetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.9.2.23 NppStatus nppiMaxIndxGetBufferHostSize_16u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.9.2.24 NppStatus nppiMaxIndxGetBufferHostSize_16u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.9.2.25 NppStatus nppiMaxIndxGetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.9.2.26 NppStatus nppiMaxIndxGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.9.2.27 NppStatus nppiMaxIndxGetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.9.2.28 NppStatus nppiMaxIndxGetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.9.2.29 NppStatus nppiMaxIndxGetBufferHostSize_8u_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.9.2.30 NppStatus nppiMaxIndxGetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.9.2.31 NppStatus nppiMaxIndxGetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.9.2.32 NppStatus nppiMaxIndxGetBufferHostSize_8u_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the dvice scratch buffer size (in bytes) for nppiMaxIndx_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.10 MinMax

Primitives for computing both the minimal and the maximal values of an image.

MinMax

The functions require the device scratch buffer.

- NppStatus nppiMinMax_8u_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pMin, Npp8u ∗pMax, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image MinMax.

- NppStatus nppiMinMax_16u_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp16u ∗pMin, Npp16u ∗pMax, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit unsigned image MinMax.

- NppStatus nppiMinMax_16s_C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp16s ∗pMin, Npp16s ∗pMax, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit signed image MinMax.

- NppStatus nppiMinMax_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32f ∗pMin, Npp32f ∗pMax, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point image MinMax.

- NppStatus nppiMinMax_8u_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u aMin[3], Npp8u aMax[3], Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image MinMax.

- NppStatus nppiMinMax_16u_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp16u aMin[3], Npp16u aMax[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit unsigned image MinMax.

- NppStatus nppiMinMax_16s_C3R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp16s aMin[3], Npp16s aMax[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit signed image MinMax.

- NppStatus nppiMinMax_32f_C3R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32f aMin[3], Npp32f aMax[3], Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point image MinMax.

- NppStatus nppiMinMax_8u_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u aMin[3], Npp8u aMax[3], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image MinMax ignoring alpha channel.

- NppStatus nppiMinMax_16u_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp16u aMin[3], Npp16u aMax[3], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image MinMax ignoring alpha channel.

- NppStatus nppiMinMax_16s_AC4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp16s aMin[3], Npp16s aMax[3], Npp8u ∗pDeviceBuffer)

Four-channel 16-bit signed image MinMax ignoring alpha channel.

- NppStatus nppiMinMax_32f_AC4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32f aMin[3], Npp32f aMax[3], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image MinMax ignoring alpha channel.

- NppStatus nppiMinMax_8u_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u aMin[4], Npp8u aMax[4], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image MinMax.

- NppStatus nppiMinMax_16u_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp16u aMin[4], Npp16u aMax[4], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image MinMax.

- NppStatus nppiMinMax_16s_C4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp16s aMin[4], Npp16s aMax[4], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed image MinMax.

- NppStatus nppiMinMax_32f_C4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32f aMin[4], Npp32f aMax[4], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image MinMax.

MinMaxGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the MinMax primitives.

- NppStatus nppiMinMaxGetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMax_8u_C1R.

- NppStatus nppiMinMaxGetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMax_16u_C1R.

- NppStatus nppiMinMaxGetBufferHostSize_16s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMax_16s_C1R.

- NppStatus nppiMinMaxGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMax_32f_C1R.

- NppStatus nppiMinMaxGetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMax_8u_C3R.

- NppStatus nppiMinMaxGetBufferHostSize_16u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMax_16u_C3R.

- NppStatus nppiMinMaxGetBufferHostSize_16s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMax_16s_C3R.

- NppStatus nppiMinMaxGetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMax_32f_C3R.

- NppStatus nppiMinMaxGetBufferHostSize_8u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMinMax_8u_AC4R.
- NppStatus nppiMinMaxGetBufferHostSize_16u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMinMax_16u_AC4R.
- NppStatus nppiMinMaxGetBufferHostSize_16s_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMinMax_16s_AC4R.
- NppStatus nppiMinMaxGetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMinMax_32f_AC4R.
- NppStatus nppiMinMaxGetBufferHostSize_8u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMinMax_8u_C4R.
- NppStatus nppiMinMaxGetBufferHostSize_16u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMinMax_16u_C4R.
- NppStatus nppiMinMaxGetBufferHostSize_16s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMinMax_16s_C4R.
- NppStatus nppiMinMaxGetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)
  Buffer size for nppiMinMax_32f_C4R.

7.10.1 Detailed Description

Primitives for computing both the minimal and the maximal values of an image.

7.10.2 Function Documentation

7.10.2.1 NppStatus nppiMinMax_16s_AC4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp16s *aMin*[3], Npp16s *aMax*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image MinMax ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aMin Array that contains the minima.

aMax Array that contains the maxima.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxGetBufferHostSize_16s_AC4R to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.2.2 NppStatus nppiMinMax_16s_C1R (const Npp16s $*$ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp16s $*$ *pMin*, Npp16s $*$ *pMax*, Npp8u $*$ *pDeviceBuffer*)

One-channel 16-bit signed image MinMax.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pMin Pointer to the computed minimal result.

pMax Pointer to the computed maximal result.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxGetBufferHostSize_16s_C1R to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.2.3 NppStatus nppiMinMax_16s_C3R (const Npp16s $*$ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp16s *aMin*[3], Npp16s *aMax*[3], Npp8u $*$ *pDeviceBuffer*)

Three-channel 16-bit signed image MinMax.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aMin Array that contains the minima.

aMax Array that contains the maxima.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxGetBufferHostSize_16s_C3R to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.2.4 NppStatus nppiMinMax_16s_C4R (const Npp16s $*$ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp16s *aMin*[4], Npp16s *aMax*[4], Npp8u $*$ *pDeviceBuffer*)

Four-channel 16-bit signed image MinMax.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aMin Array that contains the minima.

aMax Array that contains the maxima.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxGetBufferHostSize_16s_C4R to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.2.5 NppStatus nppiMinMax_16u_AC4R (const Npp16u * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp16u *aMin*[3], Npp16u *aMax*[3], Npp8u * *pDeviceBuffer*)

Four-channel 16-bit unsigned image MinMax ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aMin Array that contains the minima.

aMax Array that contains the maxima.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxGetBufferHostSize_16u_AC4R to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.2.6 NppStatus nppiMinMax_16u_C1R (const Npp16u * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp16u * *pMin*, Npp16u * *pMax*, Npp8u * *pDeviceBuffer*)

One-channel 16-bit unsigned image MinMax.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pMin Pointer to the computed minimal result.

pMax Pointer to the computed maximal result.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxGetBufferHostSize_16u_C1R to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.2.7 NppStatus nppiMinMax_16u_C3R (const Npp16u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp16u *aMin*[3], Npp16u *aMax*[3], Npp8u $*$ *pDeviceBuffer*)

Three-channel 16-bit unsigned image MinMax.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aMin Array that contains the minima.

aMax Array that contains the maxima.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxGetBufferHostSize_16u_C3R to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.2.8 NppStatus nppiMinMax_16u_C4R (const Npp16u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp16u *aMin*[4], Npp16u *aMax*[4], Npp8u $*$ *pDeviceBuffer*)

Four-channel 16-bit unsigned image MinMax.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aMin Array that contains the minima.

aMax Array that contains the maxima.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxGetBufferHostSize_16u_C4R to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.2.9 NppStatus nppiMinMax_32f_AC4R (const Npp32f $*$ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32f *aMin*[3], Npp32f *aMax*[3], Npp8u $*$ *pDeviceBuffer*)

Four-channel 32-bit floating point image MinMax ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aMin Array that contains the minima.

aMax Array that contains the maxima.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxGetBufferHostSize_32f_AC4R to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.2.10 NppStatus nppiMinMax_32f_C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32f ∗ *pMin*, Npp32f ∗ *pMax*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit floating point image MinMax.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pMin Pointer to the computed minimal result.

pMax Pointer to the computed maximal result.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxGetBufferHostSize_32f_C1R to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.2.11 NppStatus nppiMinMax_32f_C3R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32f *aMin*[3], Npp32f *aMax*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point image MinMax.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aMin Array that contains the minima.

aMax Array that contains the maxima.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxGetBufferHostSize_32f_C3R to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.2.12 NppStatus nppiMinMax_32f_C4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32f *aMin*[4], Npp32f *aMax*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image MinMax.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aMin Array that contains the minima.

aMax Array that contains the maxima.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxGetBufferHostSize_32f_C4R to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.2.13 NppStatus nppiMinMax_8u_AC4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u *aMin*[3], Npp8u *aMax*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image MinMax ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aMin Array that contains the minima.

aMax Array that contains the maxima.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxGetBufferHostSize_8u_AC4R to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.2.14 NppStatus nppiMinMax_8u_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pMin*, Npp8u ∗ *pMax*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit unsigned image MinMax.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pMin Pointer to the computed minimal result.

pMax Pointer to the computed maximal result.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxGetBufferHostSize_8u_C1R to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.2.15 NppStatus nppiMinMax_8u_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u *aMin*[3], Npp8u *aMax*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image MinMax.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aMin Array that contains the minima.

aMax Array that contains the maxima.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxGetBufferHostSize_8u_C3R to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.2.16 NppStatus nppiMinMax_8u_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u *aMin*[4], Npp8u *aMax*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image MinMax.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aMin Array that contains the minima.

aMax Array that contains the maxima.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxGetBufferHostSize_8u_C4R to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.2.17 NppStatus nppiMinMaxGetBufferHostSize_16s_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMax_16s_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.10.2.18 NppStatus nppiMinMaxGetBufferHostSize_16s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMax_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.10.2.19 NppStatus nppiMinMaxGetBufferHostSize_16s_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMax_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.10.2.20 NppStatus nppiMinMaxGetBufferHostSize_16s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMax_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.10.2.21 NppStatus nppiMinMaxGetBufferHostSize_16u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMax_16u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.10.2.22 NppStatus nppiMinMaxGetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMax_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.10.2.23 NppStatus nppiMinMaxGetBufferHostSize_16u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMax_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.10.2.24 NppStatus nppiMinMaxGetBufferHostSize_16u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMax_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.10.2.25 NppStatus nppiMinMaxGetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMax_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.10.2.26 NppStatus nppiMinMaxGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMax_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.10.2.27 NppStatus nppiMinMaxGetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMax_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.10.2.28 NppStatus nppiMinMaxGetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMinMax_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.10.2.29 NppStatus nppiMinMaxGetBufferHostSize_8u_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMinMax_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.10.2.30 NppStatus nppiMinMaxGetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMinMax_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.10.2.31 NppStatus nppiMinMaxGetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMax_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.10.2.32 NppStatus nppiMinMaxGetBufferHostSize_8u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMax_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.11 MinMaxIndx

Primitives for computing the minimal and the maximal values with their indices (X and Y coordinates) of an image.

MinMaxIndx

If there are several minima and maxima in the selected region of interest, the function returns ones on the top leftmost position.

The scratch buffer is required by the functions.

- NppStatus nppiMinMaxIndx_8u_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pMinValue, Npp8u ∗pMaxValue, NppiPoint ∗pMinIndex, NppiPoint ∗pMaxIndex, Npp8u ∗pDeviceBuffer)

  Computes the minimal and the maximal pixel values with their X and Y coordinates of 1-channel 8-bit unsigned char image.

- NppStatus nppiMinMaxIndx_8s_C1R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8s ∗pMinValue, Npp8s ∗pMaxValue, NppiPoint ∗pMinIndex, NppiPoint ∗pMaxIndex, Npp8u ∗pDeviceBuffer)

  Computes the minimal and the maximal pixel values with their X and Y coordinates of 1-channel 8-bit signed char image.

- NppStatus nppiMinMaxIndx_16u_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp16u ∗pMinValue, Npp16u ∗pMaxValue, NppiPoint ∗pMinIndex, NppiPoint ∗pMaxIndex, Npp8u ∗pDeviceBuffer)

  Computes the minimal and the maximal pixel values with their X and Y coordinates of 1-channel 16-bit unsigned short image.

- NppStatus nppiMinMaxIndx_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32f ∗pMinValue, Npp32f ∗pMaxValue, NppiPoint ∗pMinIndex, NppiPoint ∗pMaxIndex, Npp8u ∗pDeviceBuffer)

  Computes the minimal and the maximal pixel values with their X and Y coordinates of 1-channel 32-bit floating point image.

Masked MinMaxIndx

See Masked Operation.

- NppStatus nppiMinMaxIndx_8u_C1MR (const Npp8u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp8u ∗pMinValue, Npp8u ∗pMaxValue, NppiPoint ∗pMinIndex, NppiPoint ∗pMaxIndex, Npp8u ∗pDeviceBuffer)

  Masked one-channel 8-bit unsigned image MinMaxIndx.

- NppStatus nppiMinMaxIndx_8s_C1MR (const Npp8s ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp8s ∗pMinValue, Npp8s ∗pMaxValue, NppiPoint ∗pMinIndex, NppiPoint ∗pMaxIndex, Npp8u ∗pDeviceBuffer)

  Masked one-channel 8-bit signed image MinMaxIndx.

- NppStatus nppiMinMaxIndx_16u_C1MR (const Npp16u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp16u ∗pMinValue, Npp16u ∗pMaxValue, NppiPoint ∗pMinIndex, NppiPoint ∗pMaxIndex, Npp8u ∗pDeviceBuffer)

  Masked one-channel 16-bit unsigned image MinMaxIndx.

- NppStatus nppiMinMaxIndx_32f_C1MR (const Npp32f ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp32f ∗pMinValue, Npp32f ∗pMaxValue, NppiPoint ∗pMinIndex, NppiPoint ∗pMaxIndex, Npp8u ∗pDeviceBuffer)

  Masked one-channel 32-bit floating point image MinMaxIndx.

Channel MinMaxIndx

See Channel-of-Interest API.

- NppStatus nppiMinMaxIndx_8u_C3CR (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, int nCOI, Npp8u ∗pMinValue, Npp8u ∗pMaxValue, NppiPoint ∗pMinIndex, NppiPoint ∗pMaxIndex, Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image MinMaxIndx affecting only single channel.

- NppStatus nppiMinMaxIndx_8s_C3CR (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSizeROI, int nCOI, Npp8s ∗pMinValue, Npp8s ∗pMaxValue, NppiPoint ∗pMinIndex, NppiPoint ∗pMaxIndex, Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit signed image MinMaxIndx affecting only single channel.

- NppStatus nppiMinMaxIndx_16u_C3CR (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, int nCOI, Npp16u ∗pMinValue, Npp16u ∗pMaxValue, NppiPoint ∗pMinIndex, NppiPoint ∗pMaxIndex, Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit unsigned image MinMaxIndx affecting only single channel.

- NppStatus nppiMinMaxIndx_32f_C3CR (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, int nCOI, Npp32f ∗pMinValue, Npp32f ∗pMaxValue, NppiPoint ∗pMinIndex, NppiPoint ∗pMaxIndex, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point image MinMaxIndx affecting only single channel.

Masked Channel MinMaxIndx

See Masked Operation and Channel-of-Interest API.

- NppStatus nppiMinMaxIndx_8u_C3CMR (const Npp8u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp8u ∗pMinValue, Npp8u ∗pMaxValue, NppiPoint ∗pMinIndex, NppiPoint ∗pMaxIndex, Npp8u ∗pDeviceBuffer)

  Masked three-channel 8-bit unsigned image MinMaxIndx affecting only single channel.

- NppStatus nppiMinMaxIndx_8s_C3CMR (const Npp8s ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp8s ∗pMinValue, Npp8s ∗pMaxValue, NppiPoint ∗pMinIndex, NppiPoint ∗pMaxIndex, Npp8u ∗pDeviceBuffer)

  Masked three-channel 8-bit signed image MinMaxIndx affecting only single channel.

- NppStatus nppiMinMaxIndx_16u_C3CMR (const Npp16u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp16u ∗pMinValue, Npp16u ∗pMaxValue, NppiPoint ∗pMinIndex, NppiPoint ∗pMaxIndex, Npp8u ∗pDeviceBuffer)

  Masked three-channel 16-bit unsigned image MinMaxIndx affecting only single channel.

- NppStatus nppiMinMaxIndx_32f_C3CMR (const Npp32f ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp32f ∗pMinValue, Npp32f ∗pMaxValue, NppiPoint ∗pMinIndex, NppiPoint ∗pMaxIndex, Npp8u ∗pDeviceBuffer)

  Masked three-channel 32-bit floating point image MinMaxIndx affecting only single channel.

MinMaxIndxGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the MinMaxIndx primitives.

- NppStatus nppiMinMaxIndxGetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMaxIndx_8u_C1R.

- NppStatus nppiMinMaxIndxGetBufferHostSize_8s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMaxIndx_8s_C1R.

- NppStatus nppiMinMaxIndxGetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMaxIndx_16u_C1R.

- NppStatus nppiMinMaxIndxGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMaxIndx_32f_C1R.

- NppStatus nppiMinMaxIndxGetBufferHostSize_8u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMaxIndx_8u_C1MR.

- NppStatus nppiMinMaxIndxGetBufferHostSize_8s_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMaxIndx_8s_C1MR.

- NppStatus nppiMinMaxIndxGetBufferHostSize_16u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMaxIndx_16u_C1MR.

- NppStatus nppiMinMaxIndxGetBufferHostSize_32f_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMaxIndx_32f_C1MR.

- NppStatus nppiMinMaxIndxGetBufferHostSize_8u_C3CR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMaxIndx_8u_C3CR.

- NppStatus nppiMinMaxIndxGetBufferHostSize_8s_C3CR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMaxIndx_8s_C3CR.

- NppStatus nppiMinMaxIndxGetBufferHostSize_16u_C3CR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMaxIndx_16u_C3CR.

- NppStatus nppiMinMaxIndxGetBufferHostSize_32f_C3CR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMaxIndx_32f_C3CR.

- NppStatus nppiMinMaxIndxGetBufferHostSize_8u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMaxIndx_8u_C3CMR.

- NppStatus nppiMinMaxIndxGetBufferHostSize_8s_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMaxIndx_8s_C3CMR.

- NppStatus nppiMinMaxIndxGetBufferHostSize_16u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMaxIndx_16u_C3CMR.

- NppStatus nppiMinMaxIndxGetBufferHostSize_32f_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMinMaxIndx_32f_C3CMR.

7.11.1 Detailed Description

Primitives for computing the minimal and the maximal values with their indices (X and Y coordinates) of an image.

7.11.2 Function Documentation

7.11.2.1 NppStatus nppiMinMaxIndx_16u_C1MR (const Npp16u ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp16u ∗ *pMinValue*, Npp16u ∗ *pMaxValue*, NppiPoint ∗ *pMinIndex*, NppiPoint ∗ *pMaxIndex*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 16-bit unsigned image MinMaxIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pMinValue Pointer to the minimum value.

pMaxValue Pointer to the maximum value.

pMinIndex Pointer to the indicies (X and Y coordinates) of the minimum value.

pMaxIndex Pointer to the indicies (X and Y coordinates) of the maximum value.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxIndxGetBufferHostSize_16u_C1MR to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes. If the mask is filled with zeros, then all the returned values are zeros, i.e., pMinIndex = {0, 0}, pMaxIndex = {0, 0}, pMinValue = 0, pMaxValue = 0. If any of pMinValue, pMaxValue, pMinIndex, or pMaxIndex is not needed, zero pointer must be passed correspondingly.

7.11.2.2 NppStatus nppiMinMaxIndx_16u_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp16u ∗ *pMinValue*, Npp16u ∗ *pMaxValue*, NppiPoint ∗ *pMinIndex*, NppiPoint ∗ *pMaxIndex*, Npp8u ∗ *pDeviceBuffer*)

Computes the minimal and the maximal pixel values with their X and Y coordinates of 1-channel 16-bit unsigned short image.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pMinValue Pointer to the minimum value.

pMaxValue Pointer to the maximum value.

pMinIndex Pointer to the indicies (X and Y coordinates) of the minimum value.

pMaxIndex Pointer to the indicies (X and Y coordinates) of the maximum value.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxIndxGetBufferHostSize_16u_C1R to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes. If any of pMinValue, pMaxValue, pMinIndex, or pMaxIndex is not needed, zero pointer must be passed correspondingly.

7.11.2.3 NppStatus nppiMinMaxIndx_16u_C3CMR (const Npp16u ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp16u ∗ *pMinValue*, Npp16u ∗ *pMaxValue*, NppiPoint ∗ *pMinIndex*, NppiPoint ∗ *pMaxIndex*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 16-bit unsigned image MinMaxIndx affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pMinValue Pointer to the minimum value.

pMaxValue Pointer to the maximum value.

pMinIndex Pointer to the indicies (X and Y coordinates) of the minimum value.

pMaxIndex Pointer to the indicies (X and Y coordinates) of the maximum value.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxIndxGetBufferHostSize_16u_C3CMR to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified. If the mask is filled with zeros, then all the returned values are zeros, i.e., pMinIndex = {0, 0}, pMaxIndex = {0, 0}, pMinValue = 0, pMaxValue = 0. If any of pMinValue, pMaxValue, pMinIndex, or pMaxIndex is not needed, zero pointer must be passed correspondingly.

7.11.2.4 NppStatus nppiMinMaxIndx_16u_C3CR (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, int *nCOI*, Npp16u ∗ *pMinValue*, Npp16u ∗ *pMaxValue*, NppiPoint ∗ *pMinIndex*, NppiPoint ∗ *pMaxIndex*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit unsigned image MinMaxIndx affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pMinValue Pointer to the minimum value.

pMaxValue Pointer to the maximum value.

pMinIndex Pointer to the indicies (X and Y coordinates) of the minimum value.

pMaxIndex Pointer to the indicies (X and Y coordinates) of the maximum value.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxIndxGetBufferHostSize_16u_C3CR to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified. If any of pMinValue, pMaxValue, pMinIndex, or pMaxIndex is not needed, zero pointer must be passed correspondingly.

7.11.2.5 NppStatus nppiMinMaxIndx_32f_C1MR (const Npp32f ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp32f ∗ *pMinValue*, Npp32f ∗ *pMaxValue*, NppiPoint ∗ *pMinIndex*, NppiPoint ∗ *pMaxIndex*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 32-bit floating point image MinMaxIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pMinValue Pointer to the minimum value.

pMaxValue Pointer to the maximum value.

pMinIndex Pointer to the indicies (X and Y coordinates) of the minimum value.

pMaxIndex Pointer to the indicies (X and Y coordinates) of the maximum value.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxIndxGetBufferHostSize_32f_C1MR to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified. If the mask is filled with zeros, then all the returned values are zeros, i.e., pMinIndex = {0, 0}, pMaxIndex = {0, 0}, pMinValue = 0, pMaxValue = 0. If any of pMinValue, pMaxValue, pMinIndex, or pMaxIndex is not needed, zero pointer must be passed correspondingly.

7.11.2.6 NppStatus nppiMinMaxIndx_32f_C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32f ∗ *pMinValue*, Npp32f ∗ *pMaxValue*, NppiPoint ∗ *pMinIndex*, NppiPoint ∗ *pMaxIndex*, Npp8u ∗ *pDeviceBuffer*)

Computes the minimal and the maximal pixel values with their X and Y coordinates of 1-channel 32-bit floating point image.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pMinValue Pointer to the minimum value.

pMaxValue Pointer to the maximum value.

pMinIndex Pointer to the indicies (X and Y coordinates) of the minimum value.

pMaxIndex Pointer to the indicies (X and Y coordinates) of the maximum value.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxIndxGetBufferHostSize_32f_C1R to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified. If any of pMinValue, pMaxValue, pMinIndex, or pMaxIndex is not needed, zero pointer must be passed correspondingly.

7.11.2.7 NppStatus nppiMinMaxIndx_32f_C3CMR (const Npp32f * *pSrc*, int *nSrcStep*, const Npp8u * *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp32f * *pMinValue*, Npp32f * *pMaxValue*, NppiPoint * *pMinIndex*, NppiPoint * *pMaxIndex*, Npp8u * *pDeviceBuffer*)

Masked three-channel 32-bit floating point image MinMaxIndx affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pMinValue Pointer to the minimum value.

pMaxValue Pointer to the maximum value.

pMinIndex Pointer to the indicies (X and Y coordinates) of the minimum value.

pMaxIndex Pointer to the indicies (X and Y coordinates) of the maximum value.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxIndxGetBufferHostSize_32f_C3CMR to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_COI_ERROR if an invalid channel of interest is specified. If the mask is filled with zeros, then all the returned values are zeros, i.e., pMinIndex = {0, 0}, pMaxIndex = {0, 0}, pMinValue = 0, pMaxValue = 0. If any of pMinValue, pMaxValue, pMinIndex, or pMaxIndex is not needed, zero pointer must be passed correspondingly.

7.11.2.8 NppStatus nppiMinMaxIndx_32f_C3CR (const Npp32f * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, int *nCOI*, Npp32f * *pMinValue*, Npp32f * *pMaxValue*, NppiPoint * *pMinIndex*, NppiPoint * *pMaxIndex*, Npp8u * *pDeviceBuffer*)

Three-channel 32-bit floating point image MinMaxIndx affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pMinValue Pointer to the minimum value.

pMaxValue Pointer to the maximum value.

pMinIndex Pointer to the indicies (X and Y coordinates) of the minimum value.

pMaxIndex Pointer to the indicies (X and Y coordinates) of the maximum value.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxIndxGetBufferHostSize_32f_C3CR to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_COI_ERROR if an invalid channel of interest is specified. If any of pMinValue, pMaxValue, pMinIndex, or pMaxIndex is not needed, zero pointer must be passed correspondingly.

7.11.2.9 NppStatus nppiMinMaxIndx_8s_C1MR (const Npp8s ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp8s ∗ *pMinValue*, Npp8s ∗ *pMaxValue*, NppiPoint ∗ *pMinIndex*, NppiPoint ∗ *pMaxIndex*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 8-bit signed image MinMaxIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pMinValue Pointer to the minimum value.

pMaxValue Pointer to the maximum value.

pMinIndex Pointer to the indicies (X and Y coordinates) of the minimum value.

pMaxIndex Pointer to the indicies (X and Y coordinates) of the maximum value.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxIndxGetBufferHostSize_8s_C1MR to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes. If the mask is filled with zeros, then all the returned values are zeros, i.e., pMinIndex = {0, 0}, pMaxIndex = {0, 0}, pMinValue = 0, pMaxValue = 0. If any of pMinValue, pMaxValue, pMinIndex, or pMaxIndex is not needed, zero pointer must be passed correspondingly.

7.11.2.10 NppStatus nppiMinMaxIndx_8s_C1R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8s ∗ *pMinValue*, Npp8s ∗ *pMaxValue*, NppiPoint ∗ *pMinIndex*, NppiPoint ∗ *pMaxIndex*, Npp8u ∗ *pDeviceBuffer*)

Computes the minimal and the maximal pixel values with their X and Y coordinates of 1-channel 8-bit signed char image.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pMinValue Pointer to the minimum value.

pMaxValue Pointer to the maximum value.

pMinIndex Pointer to the indicies (X and Y coordinates) of the minimum value.

pMaxIndex Pointer to the indicies (X and Y coordinates) of the maximum value.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxIndxGetBufferHostSize_8s_C1R to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes. If any of pMinValue, pMaxValue, pMinIndex, or pMaxIndex is not needed, zero pointer must be passed correspondingly.

7.11.2.11 NppStatus nppiMinMaxIndx_8s_C3CMR (const Npp8s ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp8s ∗ *pMinValue*, Npp8s ∗ *pMaxValue*, NppiPoint ∗ *pMinIndex*, NppiPoint ∗ *pMaxIndex*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 8-bit signed image MinMaxIndx affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pMinValue Pointer to the minimum value.

pMaxValue Pointer to the maximum value.

pMinIndex Pointer to the indicies (X and Y coordinates) of the minimum value.

pMaxIndex Pointer to the indicies (X and Y coordinates) of the maximum value.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxIndxGetBufferHostSize_8s_C3CMR to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified. If the mask is filled with zeros, then all the returned values are zeros, i.e., pMinIndex = {0, 0}, pMaxIndex = {0, 0}, pMinValue = 0, pMaxValue = 0. If any of pMinValue, pMaxValue, pMinIndex, or pMaxIndex is not needed, zero pointer must be passed correspondingly.

7.11.2.12 NppStatus nppiMinMaxIndx_8s_C3CR (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, int *nCOI*, Npp8s ∗ *pMinValue*, Npp8s ∗ *pMaxValue*, NppiPoint ∗ *pMinIndex*, NppiPoint ∗ *pMaxIndex*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit signed image MinMaxIndx affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pMinValue Pointer to the minimum value.

pMaxValue Pointer to the maximum value.

pMinIndex Pointer to the indicies (X and Y coordinates) of the minimum value.

pMaxIndex Pointer to the indicies (X and Y coordinates) of the maximum value.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxIndxGetBufferHostSize_8s_C3CR to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified. If any of pMinValue, pMaxValue, pMinIndex, or pMaxIndex is not needed, zero pointer must be passed correspondingly.

7.11.2.13 NppStatus nppiMinMaxIndx_8u_C1MR (const Npp8u ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp8u ∗ *pMinValue*, Npp8u ∗ *pMaxValue*, NppiPoint ∗ *pMinIndex*, NppiPoint ∗ *pMaxIndex*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 8-bit unsigned image MinMaxIndx.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pMinValue Pointer to the minimum value.

pMaxValue Pointer to the maximum value.

pMinIndex Pointer to the indicies (X and Y coordinates) of the minimum value.

pMaxIndex Pointer to the indicies (X and Y coordinates) of the maximum value.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxIndxGetBufferHostSize_8u_C1MR to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes. If the mask is filled with zeros, then all the returned values are zeros, i.e., pMinIndex = {0, 0}, pMaxIndex = {0, 0}, pMinValue = 0, pMaxValue = 0. If any of pMinValue, pMaxValue, pMinIndex, or pMaxIndex is not needed, zero pointer must be passed correspondingly.

7.11.2.14 NppStatus nppiMinMaxIndx_8u_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pMinValue*, Npp8u ∗ *pMaxValue*, NppiPoint ∗ *pMinIndex*, NppiPoint ∗ *pMaxIndex*, Npp8u ∗ *pDeviceBuffer*)

Computes the minimal and the maximal pixel values with their X and Y coordinates of 1-channel 8-bit unsigned char image.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pMinValue Pointer to the minimum value.

pMaxValue Pointer to the maximum value.

pMinIndex Pointer to the indicies (X and Y coordinates) of the minimum value.

pMaxIndex Pointer to the indicies (X and Y coordinates) of the maximum value.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxIndxGetBufferHostSize_8u_C1R to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes. If any of pMinValue, pMaxValue, pMinIndex, or pMaxIndex is not needed, zero pointer must be passed correspondingly.

7.11.2.15 NppStatus nppiMinMaxIndx_8u_C3CMR (const Npp8u ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp8u ∗ *pMinValue*, Npp8u ∗ *pMaxValue*, NppiPoint ∗ *pMinIndex*, NppiPoint ∗ *pMaxIndex*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 8-bit unsigned image MinMaxIndx affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pMinValue Pointer to the minimum value.

pMaxValue Pointer to the maximum value.

pMinIndex Pointer to the indicies (X and Y coordinates) of the minimum value.

pMaxIndex Pointer to the indicies (X and Y coordinates) of the maximum value.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxIndxGetBufferHostSize_8u_C3CMR to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified. If the mask is filled with zeros, then all the returned values are zeros, i.e., pMinIndex = {0, 0}, pMaxIndex = {0, 0}, pMinValue = 0, pMaxValue = 0. If any of pMinValue, pMaxValue, pMinIndex, or pMaxIndex is not needed, zero pointer must be passed correspondingly.

7.11.2.16 NppStatus nppiMinMaxIndx_8u_C3CR (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, int *nCOI*, Npp8u ∗ *pMinValue*, Npp8u ∗ *pMaxValue*, NppiPoint ∗ *pMinIndex*, NppiPoint ∗ *pMaxIndex*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image MinMaxIndx affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pMinValue Pointer to the minimum value.

pMaxValue Pointer to the maximum value.

pMinIndex Pointer to the indicies (X and Y coordinates) of the minimum value.

pMaxIndex Pointer to the indicies (X and Y coordinates) of the maximum value.

pDeviceBuffer Buffer to a scratch memory. Use nppiMinMaxIndxGetBufferHostSize_8u_C3CR to determine the minium number of bytes required.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified. If any of pMinValue, pMaxValue, pMinIndex, or pMaxIndex is not needed, zero pointer must be passed correspondingly.

7.11.2.17 NppStatus nppiMinMaxIndxGetBufferHostSize_16u_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMaxIndx_16u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.11.2.18 NppStatus nppiMinMaxIndxGetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMaxIndx_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.11.2.19 NppStatus nppiMinMaxIndxGetBufferHostSize_16u_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMaxIndx_16u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.11.2.20 NppStatus nppiMinMaxIndxGetBufferHostSize_16u_C3CR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMaxIndx_16u_C3CR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.11.2.21 NppStatus nppiMinMaxIndxGetBufferHostSize_32f_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMaxIndx_32f_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.11.2.22 NppStatus nppiMinMaxIndxGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMaxIndx_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.11.2.23 NppStatus nppiMinMaxIndxGetBufferHostSize_32f_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMaxIndx_32f_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.11.2.24 NppStatus nppiMinMaxIndxGetBufferHostSize_32f_C3CR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMaxIndx_32f_C3CR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.11.2.25 NppStatus nppiMinMaxIndxGetBufferHostSize_8s_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMinMaxIndx_8s_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.11.2.26 NppStatus nppiMinMaxIndxGetBufferHostSize_8s_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMinMaxIndx_8s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.11.2.27 NppStatus nppiMinMaxIndxGetBufferHostSize_8s_C3CMR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMinMaxIndx_8s_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.11.2.28 NppStatus nppiMinMaxIndxGetBufferHostSize_8s_C3CR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMinMaxIndx_8s_C3CR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.11.2.29 NppStatus nppiMinMaxIndxGetBufferHostSize_8u_C1MR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMinMaxIndx_8u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.11.2.30 NppStatus nppiMinMaxIndxGetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMinMaxIndx_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.11.2.31 NppStatus nppiMinMaxIndxGetBufferHostSize_8u_C3CMR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMinMaxIndx_8u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.11.2.32 NppStatus nppiMinMaxIndxGetBufferHostSize_8u_C3CR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMinMaxIndx_8u_C3CR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12 Mean

Primitives for computing the arithmetic mean of all the pixel values in an image.

Mean

Given an image $pSrc$ with width W and height H, the arithmetic mean will be computed as

$$Mean = \frac{1}{W \cdot H} \sum_{j=0}^{H-1} \sum_{i=0}^{W-1} pSrc(j,i)$$

The mean functions require additional scratch buffer for computations.

- NppStatus nppiMean_8u_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean)

  One-channel 8-bit unsigned image Mean.

- NppStatus nppiMean_16u_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean)

  One-channel 16-bit unsigned image Mean.

- NppStatus nppiMean_16s_C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean)

  One-channel 16-bit signed image Mean.

- NppStatus nppiMean_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean)

  One-channel 32-bit floating point image Mean.

- NppStatus nppiMean_8u_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aMean[3])

  Three-channel 8-bit unsigned image Mean.

- NppStatus nppiMean_16u_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aMean[3])

  Three-channel 16-bit unsigned image Mean.

- NppStatus nppiMean_16s_C3R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aMean[3])

  Three-channel 16-bit signed image Mean.

- NppStatus nppiMean_32f_C3R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aMean[3])

  Three-channel 32-bit floating point image Mean.

- NppStatus nppiMean_8u_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aMean[4])

  Four-channel 8-bit unsigned image Mean.

- NppStatus nppiMean_16u_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aMean[4])

  Four-channel 16-bit unsigned image Mean.

- NppStatus nppiMean_16s_C4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aMean[4])

  Four-channel 16-bit signed image Mean.

- NppStatus nppiMean_32f_C4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aMean[4])

  Four-channel 32-bit floating point image Mean.

- NppStatus nppiMean_8u_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aMean[3])

  Four-channel 8-bit unsigned image Mean ignoring alpha channel.

- NppStatus nppiMean_16u_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aMean[3])

  Four-channel 16-bit unsigned image Mean ignoring alpha channel.

- NppStatus nppiMean_16s_AC4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aMean[3])

  Four-channel 16-bit signed image Mean ignoring alpha channel.

- NppStatus nppiMean_32f_AC4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f aMean[3])

  Four-channel 32-bit floating point image Mean ignoring alpha channel.

Masked Mean

See Masked Operation.

- NppStatus nppiMean_8u_C1MR (const Npp8u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean)

  Masked one-channel 8-bit unsigned image Mean.

- NppStatus nppiMean_8s_C1MR (const Npp8s ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean)

  Masked one-channel 8-bit signed image Mean.

- NppStatus nppiMean_16u_C1MR (const Npp16u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean)

  Masked one-channel 16-bit unsigned image Mean.

- NppStatus nppiMean_32f_C1MR (const Npp32f ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean)

  Masked one-channel 32-bit floating point image Mean.

Masked Channel Mean

See Channel-of-Interest API and Masked Operation.

- NppStatus nppiMean_8u_C3CMR (const Npp8u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean)

  Masked three-channel 8-bit unsigned image Mean affecting only single channel.

- NppStatus nppiMean_8s_C3CMR (const Npp8s ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean)

  Masked three-channel 8-bit signed image Mean affecting only single channel.

- NppStatus nppiMean_16u_C3CMR (const Npp16u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean)

  Masked three-channel 16-bit unsigned image Mean affecting only single channel.

- NppStatus nppiMean_32f_C3CMR (const Npp32f ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean)

  Masked three-channel 32-bit floating point image Mean affecting only single channel.

MeanGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the Mean primitives.

- NppStatus nppiMeanGetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_8u_C1R.

- NppStatus nppiMeanGetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_16u_C1R.

- NppStatus nppiMeanGetBufferHostSize_16s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_16s_C1R.

- NppStatus nppiMeanGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_32f_C1R.

- NppStatus nppiMeanGetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_8u_C3R.

- NppStatus nppiMeanGetBufferHostSize_16u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_16u_C3R.

- NppStatus nppiMeanGetBufferHostSize_16s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_16s_C3R.

- NppStatus nppiMeanGetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_32f_C3R.

- NppStatus nppiMeanGetBufferHostSize_8u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

Buffer size for nppiMean_8u_AC4R.

- NppStatus nppiMeanGetBufferHostSize_16u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_16u_AC4R.

- NppStatus nppiMeanGetBufferHostSize_16s_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_16s_AC4R.

- NppStatus nppiMeanGetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_32f_AC4R.

- NppStatus nppiMeanGetBufferHostSize_8u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_8u_C4R.

- NppStatus nppiMeanGetBufferHostSize_16u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_16u_C4R.

- NppStatus nppiMeanGetBufferHostSize_16s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_16s_C4R.

- NppStatus nppiMeanGetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_32f_C4R.

- NppStatus nppiMeanGetBufferHostSize_8u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_8u_C1MR.

- NppStatus nppiMeanGetBufferHostSize_8s_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_8s_C1MR.

- NppStatus nppiMeanGetBufferHostSize_16u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_16u_C1MR.

- NppStatus nppiMeanGetBufferHostSize_32f_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_32f_C1MR.

- NppStatus nppiMeanGetBufferHostSize_8u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_8u_C3CMR.

- NppStatus nppiMeanGetBufferHostSize_8s_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_8s_C3CMR.

- NppStatus nppiMeanGetBufferHostSize_16u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_16u_C3CMR.

- NppStatus nppiMeanGetBufferHostSize_32f_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_32f_C3CMR.

7.12.1 Detailed Description

Primitives for computing the arithmetic mean of all the pixel values in an image.

7.12.2 Function Documentation

7.12.2.1 NppStatus nppiMean_16s_AC4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aMean*[3])

Four-channel 16-bit signed image Mean ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_16s_AC4R to determine the minium number of bytes required.

aMean Array that contains the computed mean results.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.12.2.2 NppStatus nppiMean_16s_C1R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*)

One-channel 16-bit signed image Mean.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_16s_C1R to determine the minium number of bytes required.

pMean Pointer to the computed mean result.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.12.2.3 NppStatus nppiMean_16s_C3R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aMean*[3])

Three-channel 16-bit signed image Mean.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_16s_C3R to determine the minium number of bytes required.

aMean Array that contains the computed mean results.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.12.2.4 NppStatus nppiMean_16s_C4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aMean*[4])

Four-channel 16-bit signed image Mean.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_16s_C4R to determine the minium number of bytes required.

aMean Array that contains the computed mean results.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.12.2.5 NppStatus nppiMean_16u_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aMean*[3])

Four-channel 16-bit unsigned image Mean ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_16u_AC4R to determine the minium number of bytes required.

aMean Array that contains the computed mean results.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.12.2.6 NppStatus nppiMean_16u_C1MR (const Npp16u ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*)

Masked one-channel 16-bit unsigned image Mean.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_16u_C1MR to determine the minium number of bytes required.

pMean Pointer to the computed mean result.

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.12.2.7 NppStatus nppiMean_16u_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*)

One-channel 16-bit unsigned image Mean.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_16u_C1R to determine the minium number of bytes required.

pMean Pointer to the computed mean result.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.12.2.8 NppStatus nppiMean_16u_C3CMR (const Npp16u ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*)

Masked three-channel 16-bit unsigned image Mean affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_16u_C3CMR to determine the minium number of bytes required.

pMean Pointer to the computed mean result.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.12.2.9 NppStatus nppiMean_16u_C3R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aMean*[3])

Three-channel 16-bit unsigned image Mean.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_16u_C3R to determine the minium number of bytes required.

aMean Array that contains the computed mean results.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.12.2.10 NppStatus nppiMean_16u_C4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aMean*[4])

Four-channel 16-bit unsigned image Mean.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_16u_C4R to determine the minium number of bytes required.

aMean Array that contains the computed mean results.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.12.2.11 NppStatus nppiMean_32f_AC4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aMean*[3])

Four-channel 32-bit floating point image Mean ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_32f_AC4R to determine the minium number of bytes required.

aMean Array that contains the computed mean results.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.12.2.12 NppStatus nppiMean_32f_C1MR (const Npp32f ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*)

Masked one-channel 32-bit floating point image Mean.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_32f_C1MR to determine the minium number of bytes required.

pMean Pointer to the computed mean result.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.12.2.13 NppStatus nppiMean_32f_C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*)

One-channel 32-bit floating point image Mean.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_32f_C1R to determine the minium number of bytes required.

pMean Pointer to the computed mean result.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.12.2.14 NppStatus nppiMean_32f_C3CMR (const Npp32f ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*)

Masked three-channel 32-bit floating point image Mean affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_32f_C3CMR to determine the minium number of bytes required.

pMean Pointer to the computed mean result.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.12.2.15 NppStatus nppiMean_32f_C3R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aMean*[3])

Three-channel 32-bit floating point image Mean.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_32f_C3R to determine the minium number of bytes required.

aMean Array that contains the computed mean results.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.12.2.16 NppStatus nppiMean_32f_C4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aMean*[4])

Four-channel 32-bit floating point image Mean.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_32f_C4R to determine the minium number of bytes required.

aMean Array that contains the computed mean results.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.12.2.17 NppStatus nppiMean_8s_C1MR (const Npp8s $*$ *pSrc*, int *nSrcStep*, const Npp8u $*$ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp8u $*$ *pDeviceBuffer*, Npp64f $*$ *pMean*)

Masked one-channel 8-bit signed image Mean.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_8s_C1MR to determine the minium number of bytes required.

pMean Pointer to the computed mean result.

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.12.2.18 NppStatus nppiMean_8s_C3CMR (const Npp8s $*$ *pSrc*, int *nSrcStep*, const Npp8u $*$ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp8u $*$ *pDeviceBuffer*, Npp64f $*$ *pMean*)

Masked three-channel 8-bit signed image Mean affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_8s_C3CMR to determine the minium number of bytes required.

pMean Pointer to the computed mean result.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.12.2.19 NppStatus nppiMean_8u_AC4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aMean*[3])

Four-channel 8-bit unsigned image Mean ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_8u_AC4R to determine the minium number of bytes required.

aMean Array that contains the computed mean results.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.12.2.20 NppStatus nppiMean_8u_C1MR (const Npp8u ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*)

Masked one-channel 8-bit unsigned image Mean.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_8u_C1MR to determine the minium number of bytes required.

pMean Pointer to the computed mean result.

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.12.2.21 NppStatus nppiMean_8u_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*)

One-channel 8-bit unsigned image Mean.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_8u_C1R to determine the minium number of bytes required.

pMean Pointer to the computed mean result.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.12.2.22 NppStatus nppiMean_8u_C3CMR (const Npp8u ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*)

Masked three-channel 8-bit unsigned image Mean affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_8u_C3CMR to determine the minium number of bytes required.

pMean Pointer to the computed mean result.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.12.2.23 NppStatus nppiMean_8u_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aMean*[3])

Three-channel 8-bit unsigned image Mean.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_8u_C3R to determine the minium number of bytes required.

aMean Array that contains the computed mean results.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.12.2.24 NppStatus nppiMean_8u_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f *aMean*[4])

Four-channel 8-bit unsigned image Mean.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanGetBufferHostSize_8u_C4R to determine the minium number of bytes required.

aMean Array that contains the computed mean results.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.12.2.25 NppStatus nppiMeanGetBufferHostSize_16s_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMean_16s_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.26 NppStatus nppiMeanGetBufferHostSize_16s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMean_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.27 NppStatus nppiMeanGetBufferHostSize_16s_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.28 NppStatus nppiMeanGetBufferHostSize_16s_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.29 NppStatus nppiMeanGetBufferHostSize_16u_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_16u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.30 NppStatus nppiMeanGetBufferHostSize_16u_C1MR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_16u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.31 NppStatus nppiMeanGetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.32 NppStatus nppiMeanGetBufferHostSize_16u_C3CMR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_16u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.33 NppStatus nppiMeanGetBufferHostSize_16u_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.34 NppStatus nppiMeanGetBufferHostSize_16u_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.35 NppStatus nppiMeanGetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.36 NppStatus nppiMeanGetBufferHostSize_32f_C1MR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_32f_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.37 NppStatus nppiMeanGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMean_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.38 NppStatus nppiMeanGetBufferHostSize_32f_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMean_32f_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.39 NppStatus nppiMeanGetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMean_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.40 NppStatus nppiMeanGetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMean_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.41 NppStatus nppiMeanGetBufferHostSize_8s_C1MR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_8s_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.42 NppStatus nppiMeanGetBufferHostSize_8s_C3CMR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_8s_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.43 NppStatus nppiMeanGetBufferHostSize_8u_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.44 NppStatus nppiMeanGetBufferHostSize_8u_C1MR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_8u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.45 NppStatus nppiMeanGetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.46 NppStatus nppiMeanGetBufferHostSize_8u_C3CMR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_8u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.47 NppStatus nppiMeanGetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.12.2.48 NppStatus nppiMeanGetBufferHostSize_8u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMean_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.13 Mean_StdDev

Primitives for computing both the arithmetic mean and the standard deviation of an image.

Mean_StdDev

Given an image $pSrc$ with width W and height H, the mean and the standard deviation will be computed as

$$Mean = \frac{1}{W \cdot H} \sum_{j=0}^{H-1} \sum_{i=0}^{W-1} pSrc(j,i)$$

$$StdDev = \sqrt{\frac{1}{W \cdot H} \sum_{j=0}^{H-1} \sum_{i=0}^{W-1} (pSrc(j,i) - Mean)^2}$$

The Mean_StdDev primitives require additional scratch buffer for computations.

- NppStatus nppiMean_StdDev_8u_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean, Npp64f ∗pStdDev)

  One-channel 8-bit unsigned image Mean_StdDev.

- NppStatus nppiMean_StdDev_8s_C1R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean, Npp64f ∗pStdDev)

  One-channel 8-bit signed image Mean_StdDev.

- NppStatus nppiMean_StdDev_16u_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean, Npp64f ∗pStdDev)

  One-channel 16-bit unsigned image Mean_StdDev.

- NppStatus nppiMean_StdDev_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean, Npp64f ∗pStdDev)

  One-channel 32-bit floating point image Mean_StdDev.

Masked Mean_StdDev

See Masked Operation.

- NppStatus nppiMean_StdDev_8u_C1MR (const Npp8u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean, Npp64f ∗pStdDev)

  Masked one-channel 8-bit unsigned image Mean_StdDev.

- NppStatus nppiMean_StdDev_8s_C1MR (const Npp8s ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean, Npp64f ∗pStdDev)

  Masked one-channel 8-bit signed image Mean_StdDev.

- NppStatus nppiMean_StdDev_16u_C1MR (const Npp16u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean, Npp64f ∗pStdDev)

  Masked one-channel 16-bit unsigned image Mean_StdDev.

- NppStatus nppiMean_StdDev_32f_C1MR (const Npp32f ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean, Npp64f ∗pStdDev)

  Masked one-channel 32-bit floating point image Mean_StdDev.

Channel Mean_StdDev

See Channel-of-Interest API.

- NppStatus nppiMean_StdDev_8u_C3CR (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, int nCOI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean, Npp64f ∗pStdDev)

  Three-channel 8-bit unsigned image Mean_StdDev affecting only single channel.

- NppStatus nppiMean_StdDev_8s_C3CR (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSizeROI, int nCOI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean, Npp64f ∗pStdDev)

  Three-channel 8-bit signed image Mean_StdDev affecting only single channel.

- NppStatus nppiMean_StdDev_16u_C3CR (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, int nCOI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean, Npp64f ∗pStdDev)

  Three-channel 16-bit unsigned image Mean_StdDev affecting only single channel.

- NppStatus nppiMean_StdDev_32f_C3CR (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, int nCOI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean, Npp64f ∗pStdDev)

  Three-channel 32-bit floating point image Mean_StdDev affecting only single channel.

Masked Channel Mean_StdDev

See Masked Operation and Channel-of-Interest API.

- NppStatus nppiMean_StdDev_8u_C3CMR (const Npp8u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean, Npp64f ∗pStdDev)

  Masked three-channel 8-bit unsigned image Mean_StdDev.

- NppStatus nppiMean_StdDev_8s_C3CMR (const Npp8s ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean, Npp64f ∗pStdDev)

  Masked three-channel 8-bit signed image Mean_StdDev.

- NppStatus nppiMean_StdDev_16u_C3CMR (const Npp16u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean, Npp64f ∗pStdDev)

  Masked three-channel 16-bit unsigned image Mean_StdDev.

- NppStatus nppiMean_StdDev_32f_C3CMR (const Npp32f ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp8u ∗pDeviceBuffer, Npp64f ∗pMean, Npp64f ∗pStdDev)

  Masked three-channel 32-bit floating point image Mean_StdDev.

MeanStdDevGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the Mean_StdDev primitives.

- NppStatus nppiMeanStdDevGetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_StdDev_8u_C1R.

- NppStatus nppiMeanStdDevGetBufferHostSize_8s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_StdDev_8s_C1R.

- NppStatus nppiMeanStdDevGetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_StdDev_16u_C1R.

- NppStatus nppiMeanStdDevGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_StdDev_32f_C1R.

- NppStatus nppiMeanStdDevGetBufferHostSize_8u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_StdDev_8u_C1MR.

- NppStatus nppiMeanStdDevGetBufferHostSize_8s_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_StdDev_8s_C1MR.

- NppStatus nppiMeanStdDevGetBufferHostSize_16u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_StdDev_16u_C1MR.

- NppStatus nppiMeanStdDevGetBufferHostSize_32f_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_StdDev_32f_C1MR.

- NppStatus nppiMeanStdDevGetBufferHostSize_8u_C3CR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_StdDev_8u_C3CR.

- NppStatus nppiMeanStdDevGetBufferHostSize_8s_C3CR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_StdDev_8s_C3CR.

- NppStatus nppiMeanStdDevGetBufferHostSize_16u_C3CR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_StdDev_16u_C3CR.

- NppStatus nppiMeanStdDevGetBufferHostSize_32f_C3CR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_StdDev_32f_C3CR.

- NppStatus nppiMeanStdDevGetBufferHostSize_8u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_StdDev_8u_C3CMR.

- NppStatus nppiMeanStdDevGetBufferHostSize_8s_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_StdDev_8s_C3CMR.

- NppStatus nppiMeanStdDevGetBufferHostSize_16u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_StdDev_16u_C3CMR.

- NppStatus nppiMeanStdDevGetBufferHostSize_32f_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiMean_StdDev_32f_C3CMR.

7.13.1 Detailed Description

Primitives for computing both the arithmetic mean and the standard deviation of an image.

7.13.2 Function Documentation

7.13.2.1 NppStatus nppiMean_StdDev_16u_C1MR (const Npp16u ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*, Npp64f ∗ *pStdDev*)

Masked one-channel 16-bit unsigned image Mean_StdDev.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanStdDevGetBufferHostSize_16u_C1MR to determine the minium number of bytes required.

pMean Pointer to the computed mean.

pStdDev Pointer to the computed standard deviation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.13.2.2 NppStatus nppiMean_StdDev_16u_C1R (const Npp16u * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u * *pDeviceBuffer*, Npp64f * *pMean*, Npp64f * *pStdDev*)

One-channel 16-bit unsigned image Mean_StdDev.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanStdDevGetBufferHostSize_16u_C1R to determine the minium number of bytes required.

pMean Pointer to the computed mean.

pStdDev Pointer to the computed standard deviation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.13.2.3 NppStatus nppiMean_StdDev_16u_C3CMR (const Npp16u * *pSrc*, int *nSrcStep*, const Npp8u * *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp8u * *pDeviceBuffer*, Npp64f * *pMean*, Npp64f * *pStdDev*)

Masked three-channel 16-bit unsigned image Mean_StdDev.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanStdDevGetBufferHostSize_16u_C3CMR to determine the minium number of bytes required.

pMean Pointer to the computed mean.

pStdDev Pointer to the computed standard deviation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.13.2.4 NppStatus nppiMean_StdDev_16u_C3CR (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, int *nCOI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*, Npp64f ∗ *pStdDev*)

Three-channel 16-bit unsigned image Mean_StdDev affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanStdDevGetBufferHostSize_16u_C3CR to determine the minium number of bytes required.

pMean Pointer to the computed mean.

pStdDev Pointer to the computed standard deviation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.13.2.5 NppStatus nppiMean_StdDev_32f_C1MR (const Npp32f ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*, Npp64f ∗ *pStdDev*)

Masked one-channel 32-bit floating point image Mean_StdDev.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanStdDevGetBufferHostSize_32f_C1MR to determine the minium number of bytes required.

pMean Pointer to the computed mean.

pStdDev Pointer to the computed standard deviation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.13.2.6 NppStatus nppiMean_StdDev_32f_C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*, Npp64f ∗ *pStdDev*)

One-channel 32-bit floating point image Mean_StdDev.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanStdDevGetBufferHostSize_32f_C1R to determine the minium number of bytes required.

pMean Pointer to the computed mean.

pStdDev Pointer to the computed standard deviation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.13.2.7 NppStatus nppiMean_StdDev_32f_C3CMR (const Npp32f ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*, Npp64f ∗ *pStdDev*)

Masked three-channel 32-bit floating point image Mean_StdDev.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanStdDevGetBufferHostSize_32f_C3CMR to determine the minium number of bytes required.

pMean Pointer to the computed mean.

pStdDev Pointer to the computed standard deviation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.13.2.8 NppStatus nppiMean_StdDev_32f_C3CR (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, int *nCOI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*, Npp64f ∗ *pStdDev*)

Three-channel 32-bit floating point image Mean_StdDev affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanStdDevGetBufferHostSize_32f_C3CR to determine the minium number of bytes required.

pMean Pointer to the computed mean.

pStdDev Pointer to the computed standard deviation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.13.2.9 NppStatus nppiMean_StdDev_8s_C1MR (const Npp8s ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*, Npp64f ∗ *pStdDev*)

Masked one-channel 8-bit signed image Mean_StdDev.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanStdDevGetBufferHostSize_8s_C1MR to determine the minium number of bytes required.

pMean Pointer to the computed mean.

pStdDev Pointer to the computed standard deviation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.13.2.10 NppStatus nppiMean_StdDev_8s_C1R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*, Npp64f ∗ *pStdDev*)

One-channel 8-bit signed image Mean_StdDev.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanStdDevGetBufferHostSize_8s_C1R to determine the minium number of bytes required.

pMean Pointer to the computed mean.

pStdDev Pointer to the computed standard deviation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.13.2.11 NppStatus nppiMean_StdDev_8s_C3CMR (const Npp8s ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*, Npp64f ∗ *pStdDev*)

Masked three-channel 8-bit signed image Mean_StdDev.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanStdDevGetBufferHostSize_8s_C3CMR to determine the minium number of bytes required.

pMean Pointer to the computed mean.

pStdDev Pointer to the computed standard deviation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.13.2.12 NppStatus nppiMean_StdDev_8s_C3CR (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, int *nCOI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*, Npp64f ∗ *pStdDev*)

Three-channel 8-bit signed image Mean_StdDev affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanStdDevGetBufferHostSize_8s_C3CR to determine the minium number of bytes required.

pMean Pointer to the computed mean.

pStdDev Pointer to the computed standard deviation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.13.2.13 NppStatus nppiMean_StdDev_8u_C1MR (const Npp8u ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*, Npp64f ∗ *pStdDev*)

Masked one-channel 8-bit unsigned image Mean_StdDev.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanStdDevGetBufferHostSize_8u_C1MR to determine the minium number of bytes required.

pMean Pointer to the computed mean.

pStdDev Pointer to the computed standard deviation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.13.2.14 NppStatus nppiMean_StdDev_8u_C1R (const Npp8u * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp8u * *pDeviceBuffer*, Npp64f * *pMean*, Npp64f * *pStdDev*)

One-channel 8-bit unsigned image Mean_StdDev.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanStdDevGetBufferHostSize_8u_C1R to determine the minium number of bytes required.

pMean Pointer to the computed mean.

pStdDev Pointer to the computed standard deviation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.13.2.15 NppStatus nppiMean_StdDev_8u_C3CMR (const Npp8u * *pSrc*, int *nSrcStep*, const Npp8u * *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp8u * *pDeviceBuffer*, Npp64f * *pMean*, Npp64f * *pStdDev*)

Masked three-channel 8-bit unsigned image Mean_StdDev.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanStdDevGetBufferHostSize_8u_C3CMR to determine the minium number of bytes required.

pMean Pointer to the computed mean.

pStdDev Pointer to the computed standard deviation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.13.2.16 NppStatus nppiMean_StdDev_8u_C3CR (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, int *nCOI*, Npp8u ∗ *pDeviceBuffer*, Npp64f ∗ *pMean*, Npp64f ∗ *pStdDev*)

Three-channel 8-bit unsigned image Mean_StdDev affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer Use nppiMeanStdDevGetBufferHostSize_8u_C3CR to determine the minium number of bytes required.

pMean Pointer to the computed mean.

pStdDev Pointer to the computed standard deviation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.13.2.17 NppStatus nppiMeanStdDevGetBufferHostSize_16u_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMean_StdDev_16u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.13.2.18 NppStatus nppiMeanStdDevGetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMean_StdDev_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.13.2.19 NppStatus nppiMeanStdDevGetBufferHostSize_16u_C3CMR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_StdDev_16u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.13.2.20 NppStatus nppiMeanStdDevGetBufferHostSize_16u_C3CR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_StdDev_16u_C3CR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.13.2.21 NppStatus nppiMeanStdDevGetBufferHostSize_32f_C1MR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_StdDev_32f_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.13.2.22 NppStatus nppiMeanStdDevGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_StdDev_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.13.2.23 NppStatus nppiMeanStdDevGetBufferHostSize_32f_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMean_StdDev_32f_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.13.2.24 NppStatus nppiMeanStdDevGetBufferHostSize_32f_C3CR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMean_StdDev_32f_C3CR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.13.2.25 NppStatus nppiMeanStdDevGetBufferHostSize_8s_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMean_StdDev_8s_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.13.2.26 NppStatus nppiMeanStdDevGetBufferHostSize_8s_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_StdDev_8s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.13.2.27 NppStatus nppiMeanStdDevGetBufferHostSize_8s_C3CMR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_StdDev_8s_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.13.2.28 NppStatus nppiMeanStdDevGetBufferHostSize_8s_C3CR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_StdDev_8s_C3CR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.13.2.29 NppStatus nppiMeanStdDevGetBufferHostSize_8u_C1MR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiMean_StdDev_8u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.13.2.30 NppStatus nppiMeanStdDevGetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMean_StdDev_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.13.2.31 NppStatus nppiMeanStdDevGetBufferHostSize_8u_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMean_StdDev_8u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.13.2.32 NppStatus nppiMeanStdDevGetBufferHostSize_8u_C3CR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiMean_StdDev_8u_C3CR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.14 Image Norms

Primitives for computing the norms of an image, the norms of difference, and the relative errors of two images.

Modules

- Norm_Inf

  Primitives for computing the infinity norm of an image.

- Norm_L1

  Primitives for computing the L1 norm of an image.

- Norm_L2

  Primitives for computing the L2 norm of an image.

- NormDiff_Inf

  Primitives for computing the infinity norm of difference of pixels between two images.

- NormDiff_L1

  Primitives for computing the L1 norm of difference of pixels between two images.

- NormDiff_L2

  Primitives for computing the L2 norm of difference of pixels between two images.

- NormRel_Inf

  Primitives for computing the relative error of infinity norm between two images.

- NormRel_L1

  Primitives for computing the relative error of L1 norm between two images.

- NormRel_L2

  Primitives for computing the relative error of L2 norm between two images.

7.14.1 Detailed Description

Primitives for computing the norms of an image, the norms of difference, and the relative errors of two images.

Given an image $pSrc$ with width W and height H,

1. The infinity norm (Norm_Inf) is defined as the largest absolute pixel value of the image.
2. The L1 norm (Norm_L1) is defined as the sum of the absolute pixel value of the image, i.e.,

$$Norm\_L1 = \sum_{j=0}^{H-1} \sum_{i=0}^{W-1} |pSrc(j,i)|$$

.

3. The L2 norm (Norm_L2) is defined as the square root of the sum of the squared absolute pixel value of the image, i.e.,

$$Norm\_L2 = \sqrt{\sum_{j=0}^{H-1} \sum_{i=0}^{W-1} |pSrc(j,i)|^2}$$

.

Given two images $pSrc1$ and $pSrc2$ both with width W and height H,

1. The infinity norm of differece (NormDiff_Inf) is defined as the largest absolute difference between pixels of two images.
2. The L1 norm of differece (NormDiff_L1) is defined as the sum of the absolute difference between pixels of two images, i.e.,

$$NormDiff\_L1 = \sum_{j=0}^{H-1} \sum_{i=0}^{W-1} |pSrc1(j,i) - pSrc2(j,i)|$$

.

3. The L2 norm of differece (NormDiff_L2) is defined as the squared root of the sum of the squared absolute difference between pixels of two images, i.e.,

$$NormDiff\_L2 = \sqrt{\sum_{j=0}^{H-1} \sum_{i=0}^{W-1} |pSrc1(j,i) - pSrc2(j,i)|^2}$$

.

Given two images $pSrc1$ and $pSrc2$ both with width W and height H,

1. The relative error for the infinity norm of differece (NormRel_Inf) is defined as NormDiff_Inf divided by the infinity norm of the second image, i.e.,

$$NormRel\_Inf = \frac{NormDiff\_Inf}{Norm\_Inf_{src2}}$$

2. The relative error for the L1 norm of differece (NormRel_L1) is defined as NormDiff_L1 divided by the L1 norm of the second image, i.e.,

$$NormRel\_L1 = \frac{NormDiff\_L1}{Norm\_L1_{src2}}$$

3. The relative error for the L2 norm of differece (NormRel_L2) is defined as NormDiff_L2 divided by the L2 norm of the second image, i.e.,

$$NormRel\_L2 = \frac{NormDiff\_L2}{Norm\_L2_{src2}}$$

The norm functions require the addition device scratch buffer for the computations.

7.15 Norm_Inf

Primitives for computing the infinity norm of an image.

Basic Norm_Inf

- NppStatus nppiNorm_Inf_8u_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image Norm_Inf.

- NppStatus nppiNorm_Inf_16u_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit unsigned image Norm_Inf.

- NppStatus nppiNorm_Inf_16s_C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit signed image Norm_Inf.

- NppStatus nppiNorm_Inf_32s_C1R (const Npp32s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit signed image Norm_Inf.

- NppStatus nppiNorm_Inf_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point image Norm_Inf.

- NppStatus nppiNorm_Inf_8u_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image Norm_Inf.

- NppStatus nppiNorm_Inf_16u_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit unsigned image Norm_Inf.

- NppStatus nppiNorm_Inf_16s_C3R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit signed image Norm_Inf.

- NppStatus nppiNorm_Inf_32f_C3R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point image Norm_Inf.

- NppStatus nppiNorm_Inf_8u_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image Norm_Inf ignoring alpha channel.

- NppStatus nppiNorm_Inf_16u_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image Norm_Inf ignoring alpha channel.

- NppStatus nppiNorm_Inf_16s_AC4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

    Four-channel 16-bit signed image Norm_Inf ignoring alpha channel.

- NppStatus nppiNorm_Inf_32f_AC4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

    Four-channel 32-bit floating point image Norm_Inf ignoring alpha channel.

- NppStatus nppiNorm_Inf_8u_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[4], Npp8u ∗pDeviceBuffer)

    Four-channel 8-bit unsigned image Norm_Inf.

- NppStatus nppiNorm_Inf_16u_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[4], Npp8u ∗pDeviceBuffer)

    Four-channel 16-bit unsigned image Norm_Inf.

- NppStatus nppiNorm_Inf_16s_C4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[4], Npp8u ∗pDeviceBuffer)

    Four-channel 16-bit signed image Norm_Inf.

- NppStatus nppiNorm_Inf_32f_C4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[4], Npp8u ∗pDeviceBuffer)

    Four-channel 32-bit floating point image Norm_Inf.

Masked Norm_Inf

See Masked Operation.

- NppStatus nppiNorm_Inf_8u_C1MR (const Npp8u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

    Masked one-channel 8-bit unsigned image Norm_Inf.

- NppStatus nppiNorm_Inf_8s_C1MR (const Npp8s ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

    Masked one-channel 8-bit signed image Norm_Inf.

- NppStatus nppiNorm_Inf_16u_C1MR (const Npp16u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

    Masked one-channel 16-bit unsigned image Norm_Inf.

- NppStatus nppiNorm_Inf_32f_C1MR (const Npp32f ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

    Masked one-channel 32-bit floating point image Norm_Inf.

Masked Channel Norm_Inf

See Channel-of-Interest API and Masked Operation.

- NppStatus nppiNorm_Inf_8u_C3CMR (const Npp8u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  Masked three-channel 8-bit unsigned image Norm_Inf affecting only single channel.

- NppStatus nppiNorm_Inf_8s_C3CMR (const Npp8s ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  Masked three-channel 8-bit signed image Norm_Inf affecting only single channel.

- NppStatus nppiNorm_Inf_16u_C3CMR (const Npp16u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  Masked three-channel 16-bit unsigned image Norm_Inf affecting only single channel.

- NppStatus nppiNorm_Inf_32f_C3CMR (const Npp32f ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  Masked three-channel 32-bit floating point image Norm_Inf affecting only single channel.

NormInfGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the Norm_Inf primitives.

- NppStatus nppiNormInfGetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_8u_C1R.

- NppStatus nppiNormInfGetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_16u_C1R.

- NppStatus nppiNormInfGetBufferHostSize_16s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_16s_C1R.

- NppStatus nppiNormInfGetBufferHostSize_32s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_32s_C1R.

- NppStatus nppiNormInfGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_32f_C1R.

- NppStatus nppiNormInfGetBufferHostSize_8u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_8u_C1MR.

- NppStatus nppiNormInfGetBufferHostSize_8s_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_8s_C1MR.

- NppStatus nppiNormInfGetBufferHostSize_16u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_16u_C1MR.

- NppStatus nppiNormInfGetBufferHostSize_32f_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_32f_C1MR.

- NppStatus nppiNormInfGetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

Buffer size for nppiNorm_Inf_8u_C3R.

- NppStatus nppiNormInfGetBufferHostSize_16u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_16u_C3R.

- NppStatus nppiNormInfGetBufferHostSize_16s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_16s_C3R.

- NppStatus nppiNormInfGetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_32f_C3R.

- NppStatus nppiNormInfGetBufferHostSize_8u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_8u_AC4R.

- NppStatus nppiNormInfGetBufferHostSize_16u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_16u_AC4R.

- NppStatus nppiNormInfGetBufferHostSize_16s_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_16s_AC4R.

- NppStatus nppiNormInfGetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_32f_AC4R.

- NppStatus nppiNormInfGetBufferHostSize_8u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_8u_C4R.

- NppStatus nppiNormInfGetBufferHostSize_16u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_16u_C4R.

- NppStatus nppiNormInfGetBufferHostSize_16s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_16s_C4R.

- NppStatus nppiNormInfGetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_32f_C4R.

- NppStatus nppiNormInfGetBufferHostSize_8u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_8u_C3CMR.

- NppStatus nppiNormInfGetBufferHostSize_8s_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_8s_C3CMR.

- NppStatus nppiNormInfGetBufferHostSize_16u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_16u_C3CMR.

- NppStatus nppiNormInfGetBufferHostSize_32f_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_Inf_32f_C3CMR.

7.15.1 Detailed Description

Primitives for computing the infinity norm of an image.

7.15.2 Function Documentation

7.15.2.1 NppStatus nppiNorm_Inf_16s_AC4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image Norm_Inf ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_16s_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.2 NppStatus nppiNorm_Inf_16s_C1R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit signed image Norm_Inf.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.3 NppStatus nppiNorm_Inf_16s_C3R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit signed image Norm_Inf.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.4 NppStatus nppiNorm_Inf_16s_C4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image Norm_Inf.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Four-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.5 NppStatus nppiNorm_Inf_16u_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image Norm_Inf ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_16u_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.6 NppStatus nppiNorm_Inf_16u_C1MR (const Npp16u * *pSrc*, int *nSrcStep*, const Npp8u * *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f * *pNorm*, Npp8u * *pDeviceBuffer*)

Masked one-channel 16-bit unsigned image Norm_Inf.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_16u_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.7 NppStatus nppiNorm_Inf_16u_C1R (const Npp16u * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f * *pNorm*, Npp8u * *pDeviceBuffer*)

One-channel 16-bit unsigned image Norm_Inf.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_16u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.8 NppStatus nppiNorm_Inf_16u_C3CMR (const Npp16u * *pSrc*, int *nSrcStep*, const Npp8u * *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f * *pNorm*, Npp8u * *pDeviceBuffer*)

Masked three-channel 16-bit unsigned image Norm_Inf affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_16u_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.15.2.9 NppStatus nppiNorm_Inf_16u_C3R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit unsigned image Norm_Inf.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_16u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.10 NppStatus nppiNorm_Inf_16u_C4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image Norm_Inf.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Four-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_16u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.11 NppStatus nppiNorm_Inf_32f_AC4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image Norm_Inf ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.12 NppStatus nppiNorm_Inf_32f_C1MR (const Npp32f ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 32-bit floating point image Norm_Inf.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_32f_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.13 NppStatus nppiNorm_Inf_32f_C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit floating point image Norm_Inf.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.14 NppStatus nppiNorm_Inf_32f_C3CMR (const Npp32f ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 32-bit floating point image Norm_Inf affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_32f_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.15.2.15 NppStatus nppiNorm_Inf_32f_C3R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point image Norm_Inf.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.16 NppStatus nppiNorm_Inf_32f_C4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image Norm_Inf.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Four-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.17 NppStatus nppiNorm_Inf_32s_C1R (const Npp32s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit signed image Norm_Inf.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_32s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.18 NppStatus nppiNorm_Inf_8s_C1MR (const Npp8s ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 8-bit signed image Norm_Inf.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_8s_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.19 NppStatus nppiNorm_Inf_8s_C3CMR (const Npp8s ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 8-bit signed image Norm_Inf affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_8s_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.15.2.20 NppStatus nppiNorm_Inf_8u_AC4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image Norm_Inf ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_8u_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.21 NppStatus nppiNorm_Inf_8u_C1MR (const Npp8u ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 8-bit unsigned image Norm_Inf.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_8u_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.22 NppStatus nppiNorm_Inf_8u_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit unsigned image Norm_Inf.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_8u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.23 NppStatus nppiNorm_Inf_8u_C3CMR (const Npp8u ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 8-bit unsigned image Norm_Inf affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_8u_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.15.2.24 NppStatus nppiNorm_Inf_8u_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image Norm_Inf.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_8u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.25 NppStatus nppiNorm_Inf_8u_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image Norm_Inf.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Four-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormInfGetBufferHostSize_8u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.15.2.26 NppStatus nppiNormInfGetBufferHostSize_16s_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_Inf_16s_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.27 NppStatus nppiNormInfGetBufferHostSize_16s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_Inf_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.28 NppStatus nppiNormInfGetBufferHostSize_16s_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_Inf_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.29 NppStatus nppiNormInfGetBufferHostSize_16s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_Inf_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.30 NppStatus nppiNormInfGetBufferHostSize_16u_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNorm_Inf_16u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.31 NppStatus nppiNormInfGetBufferHostSize_16u_C1MR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNorm_Inf_16u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.32 NppStatus nppiNormInfGetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNorm_Inf_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.33 NppStatus nppiNormInfGetBufferHostSize_16u_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_Inf_16u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.34 NppStatus nppiNormInfGetBufferHostSize_16u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_Inf_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.35 NppStatus nppiNormInfGetBufferHostSize_16u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_Inf_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.36 NppStatus nppiNormInfGetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_Inf_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.37 NppStatus nppiNormInfGetBufferHostSize_32f_C1MR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNorm_Inf_32f_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.38 NppStatus nppiNormInfGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNorm_Inf_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.39 NppStatus nppiNormInfGetBufferHostSize_32f_C3CMR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNorm_Inf_32f_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.40 NppStatus nppiNormInfGetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_Inf_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.41 NppStatus nppiNormInfGetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_Inf_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.42 NppStatus nppiNormInfGetBufferHostSize_32s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_Inf_32s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.43 NppStatus nppiNormInfGetBufferHostSize_8s_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_Inf_8s_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.44 NppStatus nppiNormInfGetBufferHostSize_8s_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_Inf_8s_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.45 NppStatus nppiNormInfGetBufferHostSize_8u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_Inf_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.46 NppStatus nppiNormInfGetBufferHostSize_8u_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_Inf_8u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.47 NppStatus nppiNormInfGetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_Inf_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.48 NppStatus nppiNormInfGetBufferHostSize_8u_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_Inf_8u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.49 NppStatus nppiNormInfGetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_Inf_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.15.2.50 NppStatus nppiNormInfGetBufferHostSize_8u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_Inf_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16 Norm_L1

Primitives for computing the L1 norm of an image.

Basic Norm_L1

- NppStatus nppiNorm_L1_8u_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image Norm_L1.

- NppStatus nppiNorm_L1_16u_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit unsigned image Norm_L1.

- NppStatus nppiNorm_L1_16s_C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit signed image Norm_L1.

- NppStatus nppiNorm_L1_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point image Norm_L1.

- NppStatus nppiNorm_L1_8u_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image Norm_L1.

- NppStatus nppiNorm_L1_16u_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit unsigned image Norm_L1.

- NppStatus nppiNorm_L1_16s_C3R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit signed image Norm_L1.

- NppStatus nppiNorm_L1_32f_C3R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point image Norm_L1.

- NppStatus nppiNorm_L1_8u_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image Norm_L1 ignoring alpha channel.

- NppStatus nppiNorm_L1_16u_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image Norm_L1 ignoring alpha channel.

- NppStatus nppiNorm_L1_16s_AC4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed image Norm_L1 ignoring alpha channel.

- NppStatus nppiNorm_L1_32f_AC4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image Norm_L1 ignoring alpha channel.

- NppStatus nppiNorm_L1_8u_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[4], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image Norm_L1.

- NppStatus nppiNorm_L1_16u_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[4], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image Norm_L1.

- NppStatus nppiNorm_L1_16s_C4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[4], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed image Norm_L1.

- NppStatus nppiNorm_L1_32f_C4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[4], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image Norm_L1.

Masked Norm_L1

See Masked Operation.

- NppStatus nppiNorm_L1_8u_C1MR (const Npp8u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  Masked one-channel 8-bit unsigned image Norm_L1.

- NppStatus nppiNorm_L1_8s_C1MR (const Npp8s ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  Masked one-channel 8-bit signed image Norm_L1.

- NppStatus nppiNorm_L1_16u_C1MR (const Npp16u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  Masked one-channel 16-bit unsigned image Norm_L1.

- NppStatus nppiNorm_L1_32f_C1MR (const Npp32f ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  Masked one-channel 32-bit floating point image Norm_L1.

Masked Channel Norm_L1

See Channel-of-Interest API and Masked Operation.

- NppStatus nppiNorm_L1_8u_C3CMR (const Npp8u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  Masked three-channel 8-bit unsigned image Norm_L1 affecting only single channel.

- NppStatus nppiNorm_L1_8s_C3CMR (const Npp8s ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  Masked three-channel 8-bit signed image Norm_L1 affecting only single channel.

- NppStatus nppiNorm_L1_16u_C3CMR (const Npp16u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  Masked three-channel 16-bit unsigned image Norm_L1 affecting only single channel.

- NppStatus nppiNorm_L1_32f_C3CMR (const Npp32f ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  Masked three-channel 32-bit floating point image Norm_L1 affecting only single channel.

NormL1GetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the Norm_L1 primitives.

- NppStatus nppiNormL1GetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_8u_C1R.

- NppStatus nppiNormL1GetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_16u_C1R.

- NppStatus nppiNormL1GetBufferHostSize_16s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_16s_C1R.

- NppStatus nppiNormL1GetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_32f_C1R.

- NppStatus nppiNormL1GetBufferHostSize_8u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_8u_C1MR.

- NppStatus nppiNormL1GetBufferHostSize_8s_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_8s_C1MR.

- NppStatus nppiNormL1GetBufferHostSize_16u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_16u_C1MR.

- NppStatus nppiNormL1GetBufferHostSize_32f_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_32f_C1MR.

- NppStatus nppiNormL1GetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_8u_C3R.

- NppStatus nppiNormL1GetBufferHostSize_16u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_16u_C3R.

- NppStatus nppiNormL1GetBufferHostSize_16s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_16s_C3R.

- NppStatus nppiNormL1GetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_32f_C3R.

- NppStatus nppiNormL1GetBufferHostSize_8u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_8u_AC4R.

- NppStatus nppiNormL1GetBufferHostSize_16u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_16u_AC4R.

- NppStatus nppiNormL1GetBufferHostSize_16s_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_16s_AC4R.

- NppStatus nppiNormL1GetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_32f_AC4R.

- NppStatus nppiNormL1GetBufferHostSize_8u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_8u_C4R.

- NppStatus nppiNormL1GetBufferHostSize_16u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_16u_C4R.

- NppStatus nppiNormL1GetBufferHostSize_16s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_16s_C4R.

- NppStatus nppiNormL1GetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_32f_C4R.

- NppStatus nppiNormL1GetBufferHostSize_8u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_8u_C3CMR.

- NppStatus nppiNormL1GetBufferHostSize_8s_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_8s_C3CMR.

- NppStatus nppiNormL1GetBufferHostSize_16u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_16u_C3CMR.

- NppStatus nppiNormL1GetBufferHostSize_32f_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L1_32f_C3CMR.

7.16.1 Detailed Description

Primitives for computing the L1 norm of an image.

7.16.2 Function Documentation

7.16.2.1 NppStatus nppiNorm_L1_16s_AC4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image Norm_L1 ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_16s_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.16.2.2 NppStatus nppiNorm_L1_16s_C1R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit signed image Norm_L1.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.16.2.3 NppStatus nppiNorm_L1_16s_C3R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit signed image Norm_L1.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.16.2.4 NppStatus nppiNorm_L1_16s_C4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image Norm_L1.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Four-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.16.2.5 NppStatus nppiNorm_L1_16u_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image Norm_L1 ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_16u_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.16.2.6 NppStatus nppiNorm_L1_16u_C1MR (const Npp16u ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 16-bit unsigned image Norm_L1.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_16u_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.16.2.7 NppStatus nppiNorm_L1_16u_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit unsigned image Norm_L1.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_16u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.16.2.8 NppStatus nppiNorm_L1_16u_C3CMR (const Npp16u ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 16-bit unsigned image Norm_L1 affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_16u_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.16.2.9 NppStatus nppiNorm_L1_16u_C3R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit unsigned image Norm_L1.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_16u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.16.2.10 NppStatus nppiNorm_L1_16u_C4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image Norm_L1.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Four-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_16u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.16.2.11 NppStatus nppiNorm_L1_32f_AC4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image Norm_L1 ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.16.2.12 NppStatus nppiNorm_L1_32f_C1MR (const Npp32f ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 32-bit floating point image Norm_L1.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_32f_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.16.2.13 NppStatus nppiNorm_L1_32f_C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit floating point image Norm_L1.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.16.2.14 NppStatus nppiNorm_L1_32f_C3CMR (const Npp32f ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 32-bit floating point image Norm_L1 affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_32f_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if the step of the source image cannot be divided by 4, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.16.2.15 NppStatus nppiNorm_L1_32f_C3R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point image Norm_L1.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.16.2.16 NppStatus nppiNorm_L1_32f_C4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image Norm_L1.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Four-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.16.2.17 NppStatus nppiNorm_L1_8s_C1MR (const Npp8s ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 8-bit signed image Norm_L1.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_8s_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.16.2.18 NppStatus nppiNorm_L1_8s_C3CMR (const Npp8s ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 8-bit signed image Norm_L1 affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_8s_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.16.2.19 NppStatus nppiNorm_L1_8u_AC4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image Norm_L1 ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_8u_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.16.2.20 NppStatus nppiNorm_L1_8u_C1MR (const Npp8u ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 8-bit unsigned image Norm_L1.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_8u_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.16.2.21 NppStatus nppiNorm_L1_8u_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit unsigned image Norm_L1.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_8u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.16.2.22 NppStatus nppiNorm_L1_8u_C3CMR (const Npp8u ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 8-bit unsigned image Norm_L1 affecting only single channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_8u_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.16.2.23 NppStatus nppiNorm_L1_8u_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image Norm_L1.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_8u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.16.2.24 NppStatus nppiNorm_L1_8u_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image Norm_L1.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Four-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL1GetBufferHostSize_8u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.16.2.25 NppStatus nppiNormL1GetBufferHostSize_16s_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L1_16s_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.26 NppStatus nppiNormL1GetBufferHostSize_16s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L1_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.27 NppStatus nppiNormL1GetBufferHostSize_16s_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L1_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.28 NppStatus nppiNormL1GetBufferHostSize_16s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L1_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.29 NppStatus nppiNormL1GetBufferHostSize_16u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L1_16u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.30 NppStatus nppiNormL1GetBufferHostSize_16u_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L1_16u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.31 NppStatus nppiNormL1GetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNorm_L1_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.32 NppStatus nppiNormL1GetBufferHostSize_16u_C3CMR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNorm_L1_16u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.33 NppStatus nppiNormL1GetBufferHostSize_16u_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNorm_L1_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.34 NppStatus nppiNormL1GetBufferHostSize_16u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L1_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.35 NppStatus nppiNormL1GetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L1_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.36 NppStatus nppiNormL1GetBufferHostSize_32f_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L1_32f_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.37 NppStatus nppiNormL1GetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L1_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.38 NppStatus nppiNormL1GetBufferHostSize_32f_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L1_32f_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.39 NppStatus nppiNormL1GetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L1_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.40 NppStatus nppiNormL1GetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L1_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.41 NppStatus nppiNormL1GetBufferHostSize_8s_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L1_8s_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.42 NppStatus nppiNormL1GetBufferHostSize_8s_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L1_8s_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.43 NppStatus nppiNormL1GetBufferHostSize_8u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L1_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.44 NppStatus nppiNormL1GetBufferHostSize_8u_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L1_8u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.45 NppStatus nppiNormL1GetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNorm_L1_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.46 NppStatus nppiNormL1GetBufferHostSize_8u_C3CMR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNorm_L1_8u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.47 NppStatus nppiNormL1GetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNorm_L1_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.16.2.48 NppStatus nppiNormL1GetBufferHostSize_8u_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNorm_L1_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17 Norm_L2

Primitives for computing the L2 norm of an image.

Basic Norm_L2

Computes the L2 norm of an image.

- NppStatus nppiNorm_L2_8u_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image Norm_L2.

- NppStatus nppiNorm_L2_16u_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit unsigned image Norm_L2.

- NppStatus nppiNorm_L2_16s_C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit signed image Norm_L2.

- NppStatus nppiNorm_L2_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point image Norm_L2.

- NppStatus nppiNorm_L2_8u_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image Norm_L2.

- NppStatus nppiNorm_L2_16u_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit unsigned image Norm_L2.

- NppStatus nppiNorm_L2_16s_C3R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit signed image Norm_L2.

- NppStatus nppiNorm_L2_32f_C3R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point image Norm_L2.

- NppStatus nppiNorm_L2_8u_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image Norm_L2 ignoring alpha channel.

- NppStatus nppiNorm_L2_16u_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image Norm_L2 ignoring alpha channel.

- NppStatus nppiNorm_L2_16s_AC4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

Four-channel 16-bit signed image Norm_L2 ignoring alpha channel.

- NppStatus nppiNorm_L2_32f_AC4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[3], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image Norm_L2 ignoring alpha channel.

- NppStatus nppiNorm_L2_8u_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[4], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image Norm_L2.

- NppStatus nppiNorm_L2_16u_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[4], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image Norm_L2.

- NppStatus nppiNorm_L2_16s_C4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[4], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed image Norm_L2.

- NppStatus nppiNorm_L2_32f_C4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp64f aNorm[4], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image Norm_L2.

Masked Norm_L2

See Masked Operation.

- NppStatus nppiNorm_L2_8u_C1MR (const Npp8u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  Masked one-channel 8-bit unsigned image Norm_L2.

- NppStatus nppiNorm_L2_8s_C1MR (const Npp8s ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  Masked one-channel 8-bit signed image Norm_L2.

- NppStatus nppiNorm_L2_16u_C1MR (const Npp16u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  Masked one-channel 16-bit unsigned image Norm_L2.

- NppStatus nppiNorm_L2_32f_C1MR (const Npp32f ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  Masked one-channel 32-bit floating point image Norm_L2.

Masked Channel Norm_L2

See Channel-of-Interest API and Masked Operation.

- NppStatus nppiNorm_L2_8u_C3CMR (const Npp8u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

Masked three-channel 8-bit unsigned image Norm_L2.

- NppStatus nppiNorm_L2_8s_C3CMR (const Npp8s ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  Masked three-channel 8-bit signed image Norm_L2.

- NppStatus nppiNorm_L2_16u_C3CMR (const Npp16u ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  Masked three-channel 16-bit unsigned image Norm_L2.

- NppStatus nppiNorm_L2_32f_C3CMR (const Npp32f ∗pSrc, int nSrcStep, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNorm, Npp8u ∗pDeviceBuffer)

  Masked three-channel 32-bit floating point image Norm_L2.

NormL2GetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the Norm_L2 primitives.

- NppStatus nppiNormL2GetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_8u_C1R.

- NppStatus nppiNormL2GetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_16u_C1R.

- NppStatus nppiNormL2GetBufferHostSize_16s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_16s_C1R.

- NppStatus nppiNormL2GetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_32f_C1R.

- NppStatus nppiNormL2GetBufferHostSize_8u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_8u_C1MR.

- NppStatus nppiNormL2GetBufferHostSize_8s_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_8s_C1MR.

- NppStatus nppiNormL2GetBufferHostSize_16u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_16u_C1MR.

- NppStatus nppiNormL2GetBufferHostSize_32f_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_32f_C1MR.

- NppStatus nppiNormL2GetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_8u_C3R.

- NppStatus nppiNormL2GetBufferHostSize_16u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_16u_C3R.

- NppStatus nppiNormL2GetBufferHostSize_16s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

Buffer size for nppiNorm_L2_16s_C3R.

- NppStatus nppiNormL2GetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_32f_C3R.

- NppStatus nppiNormL2GetBufferHostSize_8u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_8u_AC4R.

- NppStatus nppiNormL2GetBufferHostSize_16u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_16u_AC4R.

- NppStatus nppiNormL2GetBufferHostSize_16s_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_16s_AC4R.

- NppStatus nppiNormL2GetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_32f_AC4R.

- NppStatus nppiNormL2GetBufferHostSize_8u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_8u_C4R.

- NppStatus nppiNormL2GetBufferHostSize_16u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_16u_C4R.

- NppStatus nppiNormL2GetBufferHostSize_16s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_16s_C4R.

- NppStatus nppiNormL2GetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_32f_C4R.

- NppStatus nppiNormL2GetBufferHostSize_8u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_8u_C3CMR.

- NppStatus nppiNormL2GetBufferHostSize_8s_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_8s_C3CMR.

- NppStatus nppiNormL2GetBufferHostSize_16u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_16u_C3CMR.

- NppStatus nppiNormL2GetBufferHostSize_32f_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNorm_L2_32f_C3CMR.

7.17.1 Detailed Description

Primitives for computing the L2 norm of an image.

7.17.2 Function Documentation

7.17.2.1 NppStatus nppiNorm_L2_16s_AC4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image Norm_L2 ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_16s_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.17.2.2 NppStatus nppiNorm_L2_16s_C1R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit signed image Norm_L2.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.17.2.3 NppStatus nppiNorm_L2_16s_C3R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit signed image Norm_L2.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.17.2.4 NppStatus nppiNorm_L2_16s_C4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image Norm_L2.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Four-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.17.2.5 NppStatus nppiNorm_L2_16u_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image Norm_L2 ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_16u_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.17.2.6 NppStatus nppiNorm_L2_16u_C1MR (const Npp16u ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 16-bit unsigned image Norm_L2.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_16u_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.17.2.7 NppStatus nppiNorm_L2_16u_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit unsigned image Norm_L2.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_16u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.17.2.8 NppStatus nppiNorm_L2_16u_C3CMR (const Npp16u ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 16-bit unsigned image Norm_L2.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_16u_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.17.2.9 NppStatus nppiNorm_L2_16u_C3R (const Npp16u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u $*$ *pDeviceBuffer*)

Three-channel 16-bit unsigned image Norm_L2.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_16u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.17.2.10 NppStatus nppiNorm_L2_16u_C4R (const Npp16u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[4], Npp8u $*$ *pDeviceBuffer*)

Four-channel 16-bit unsigned image Norm_L2.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Four-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_16u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.17.2.11 NppStatus nppiNorm_L2_32f_AC4R (const Npp32f $*$ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u $*$ *pDeviceBuffer*)

Four-channel 32-bit floating point image Norm_L2 ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.17.2.12 NppStatus nppiNorm_L2_32f_C1MR (const Npp32f $*$ *pSrc*, int *nSrcStep*, const Npp8u $*$ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f $*$ *pNorm*, Npp8u $*$ *pDeviceBuffer*)

Masked one-channel 32-bit floating point image Norm_L2.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_32f_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if the step of the source image cannot be divided by 4.

7.17.2.13 NppStatus nppiNorm_L2_32f_C1R (const Npp32f $*$ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f $*$ *pNorm*, Npp8u $*$ *pDeviceBuffer*)

One-channel 32-bit floating point image Norm_L2.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.17.2.14 NppStatus nppiNorm_L2_32f_C3CMR (const Npp32f ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 32-bit floating point image Norm_L2.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_32f_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if the step of the source image cannot be divided by 4, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.17.2.15 NppStatus nppiNorm_L2_32f_C3R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point image Norm_L2.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.17.2.16 NppStatus nppiNorm_L2_32f_C4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image Norm_L2.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Four-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.17.2.17 NppStatus nppiNorm_L2_8s_C1MR (const Npp8s $*$ *pSrc*, int *nSrcStep*, const Npp8u $*$ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f $*$ *pNorm*, Npp8u $*$ *pDeviceBuffer*)

Masked one-channel 8-bit signed image Norm_L2.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_8s_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.17.2.18 NppStatus nppiNorm_L2_8s_C3CMR (const Npp8s $*$ *pSrc*, int *nSrcStep*, const Npp8u $*$ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f $*$ *pNorm*, Npp8u $*$ *pDeviceBuffer*)

Masked three-channel 8-bit signed image Norm_L2.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_8s_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.17.2.19 NppStatus nppiNorm_L2_8u_AC4R (const Npp8u * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u * *pDeviceBuffer*)

Four-channel 8-bit unsigned image Norm_L2 ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_8u_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.17.2.20 NppStatus nppiNorm_L2_8u_C1MR (const Npp8u * *pSrc*, int *nSrcStep*, const Npp8u * *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f * *pNorm*, Npp8u * *pDeviceBuffer*)

Masked one-channel 8-bit unsigned image Norm_L2.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_8u_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.17.2.21 NppStatus nppiNorm_L2_8u_C1R (const Npp8u * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f * *pNorm*, Npp8u * *pDeviceBuffer*)

One-channel 8-bit unsigned image Norm_L2.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_8u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.17.2.22 NppStatus nppiNorm_L2_8u_C3CMR (const Npp8u ∗ *pSrc*, int *nSrcStep*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNorm*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 8-bit unsigned image Norm_L2.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNorm Pointer to the norm value.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_8u_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.17.2.23 NppStatus nppiNorm_L2_8u_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image Norm_L2.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Three-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_8u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.17.2.24 NppStatus nppiNorm_L2_8u_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp64f *aNorm*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image Norm_L2.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNorm Array that contains the norm values of Four-channels.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormL2GetBufferHostSize_8u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.17.2.25 NppStatus nppiNormL2GetBufferHostSize_16s_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_16s_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.26 NppStatus nppiNormL2GetBufferHostSize_16s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.27 NppStatus nppiNormL2GetBufferHostSize_16s_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.28 NppStatus nppiNormL2GetBufferHostSize_16s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.29 NppStatus nppiNormL2GetBufferHostSize_16u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_16u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.30 NppStatus nppiNormL2GetBufferHostSize_16u_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_16u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.31 NppStatus nppiNormL2GetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.32 NppStatus nppiNormL2GetBufferHostSize_16u_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_16u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.33 NppStatus nppiNormL2GetBufferHostSize_16u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.34 NppStatus nppiNormL2GetBufferHostSize_16u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.35 NppStatus nppiNormL2GetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.36 NppStatus nppiNormL2GetBufferHostSize_32f_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_32f_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.37 NppStatus nppiNormL2GetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.38 NppStatus nppiNormL2GetBufferHostSize_32f_C3CMR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNorm_L2_32f_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.39 NppStatus nppiNormL2GetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNorm_L2_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.40 NppStatus nppiNormL2GetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNorm_L2_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.41 NppStatus nppiNormL2GetBufferHostSize_8s_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_8s_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.42 NppStatus nppiNormL2GetBufferHostSize_8s_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_8s_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.43 NppStatus nppiNormL2GetBufferHostSize_8u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.44 NppStatus nppiNormL2GetBufferHostSize_8u_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_8u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.45 NppStatus nppiNormL2GetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.46 NppStatus nppiNormL2GetBufferHostSize_8u_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_8u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.47 NppStatus nppiNormL2GetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.17.2.48 NppStatus nppiNormL2GetBufferHostSize_8u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNorm_L2_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18 NormDiff_Inf

Primitives for computing the infinity norm of difference of pixels between two images.

Basic NormDiff_Inf

- NppStatus nppiNormDiff_Inf_8u_C1R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image NormDiff_Inf.

- NppStatus nppiNormDiff_Inf_16u_C1R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit unsigned image NormDiff_Inf.

- NppStatus nppiNormDiff_Inf_16s_C1R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit signed image NormDiff_Inf.

- NppStatus nppiNormDiff_Inf_32f_C1R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point image NormDiff_Inf.

- NppStatus nppiNormDiff_Inf_8u_C3R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image NormDiff_Inf.

- NppStatus nppiNormDiff_Inf_16u_C3R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit unsigned image NormDiff_Inf.

- NppStatus nppiNormDiff_Inf_16s_C3R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit signed image NormDiff_Inf.

- NppStatus nppiNormDiff_Inf_32f_C3R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point image NormDiff_Inf.

- NppStatus nppiNormDiff_Inf_8u_AC4R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image NormDiff_Inf ignoring alpha channel.

- NppStatus nppiNormDiff_Inf_16u_AC4R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image NormDiff_Inf ignoring alpha channel.

- NppStatus nppiNormDiff_Inf_16s_AC4R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed image NormDiff_Inf ignoring alpha channel.

- NppStatus nppiNormDiff_Inf_32f_AC4R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image NormDiff_Inf ignoring alpha channel.

- NppStatus nppiNormDiff_Inf_8u_C4R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[4], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image NormDiff_Inf.

- NppStatus nppiNormDiff_Inf_16u_C4R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[4], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image NormDiff_Inf.

- NppStatus nppiNormDiff_Inf_16s_C4R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[4], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed image NormDiff_Inf.

- NppStatus nppiNormDiff_Inf_32f_C4R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[4], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image NormDiff_Inf.

Masked NormDiff_Inf

See Masked Operation.

- NppStatus nppiNormDiff_Inf_8u_C1MR (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked one-channel 8-bit unsigned images NormDiff_Inf.

- NppStatus nppiNormDiff_Inf_8s_C1MR (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked one-channel 8-bit signed images NormDiff_Inf.

- NppStatus nppiNormDiff_Inf_16u_C1MR (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked one-channel 16-bit unsigned images NormDiff_Inf.

- NppStatus nppiNormDiff_Inf_32f_C1MR (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked one-channel 32-bit floating point images NormDiff_Inf.

Masked Channel Mean

See Masked Operation and Channel-of-Interest API.

- NppStatus nppiNormDiff_Inf_8u_C3CMR (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked three-channel 8-bit unsigned image NormDiff_Inf affecting only single channel.

- NppStatus nppiNormDiff_Inf_8s_C3CMR (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked three-channel 8-bit signed image NormDiff_Inf affecting only single channel.

- NppStatus nppiNormDiff_Inf_16u_C3CMR (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked three-channel 16-bit unsigned image NormDiff_Inf affecting only single channel.

- NppStatus nppiNormDiff_Inf_32f_C3CMR (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked three-channel 32-bit floating point image NormDiff_Inf affecting only single channel.

NormDiffInfGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the NormDiff_Inf primitives.

- NppStatus nppiNormDiffInfGetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_8u_C1R.

- NppStatus nppiNormDiffInfGetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_16u_C1R.

- NppStatus nppiNormDiffInfGetBufferHostSize_16s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_16s_C1R.

- NppStatus nppiNormDiffInfGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_32f_C1R.

- NppStatus nppiNormDiffInfGetBufferHostSize_8u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_8u_C1MR.

- NppStatus nppiNormDiffInfGetBufferHostSize_8s_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_8s_C1MR.

- NppStatus nppiNormDiffInfGetBufferHostSize_16u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

Buffer size for nppiNormDiff_Inf_16u_C1MR.

- NppStatus nppiNormDiffInfGetBufferHostSize_32f_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_32f_C1MR.

- NppStatus nppiNormDiffInfGetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_8u_C3R.

- NppStatus nppiNormDiffInfGetBufferHostSize_16u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_16u_C3R.

- NppStatus nppiNormDiffInfGetBufferHostSize_16s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_16s_C3R.

- NppStatus nppiNormDiffInfGetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_32f_C3R.

- NppStatus nppiNormDiffInfGetBufferHostSize_8u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_8u_C4R.

- NppStatus nppiNormDiffInfGetBufferHostSize_16u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_16u_C4R.

- NppStatus nppiNormDiffInfGetBufferHostSize_16s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_16s_C4R.

- NppStatus nppiNormDiffInfGetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_32f_C4R.

- NppStatus nppiNormDiffInfGetBufferHostSize_8u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_8u_AC4R.

- NppStatus nppiNormDiffInfGetBufferHostSize_16u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_16u_AC4R.

- NppStatus nppiNormDiffInfGetBufferHostSize_16s_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_16s_AC4R.

- NppStatus nppiNormDiffInfGetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_32f_AC4R.

- NppStatus nppiNormDiffInfGetBufferHostSize_8u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_8u_C3CMR.

- NppStatus nppiNormDiffInfGetBufferHostSize_8s_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_8s_C3CMR.

- NppStatus nppiNormDiffInfGetBufferHostSize_16u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_16u_C3CMR.

- NppStatus nppiNormDiffInfGetBufferHostSize_32f_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size for nppiNormDiff_Inf_32f_C3CMR.

7.18.1 Detailed Description

Primitives for computing the infinity norm of difference of pixels between two images.

7.18.2 Function Documentation

7.18.2.1 NppStatus nppiNormDiff_Inf_16s_AC4R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image NormDiff_Inf ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_16s_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.18.2.2 NppStatus nppiNormDiff_Inf_16s_C1R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit signed image NormDiff_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.18.2.3 NppStatus nppiNormDiff_Inf_16s_C3R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit signed image NormDiff_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.18.2.4 NppStatus nppiNormDiff_Inf_16s_C4R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image NormDiff_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.18.2.5 NppStatus nppiNormDiff_Inf_16u_AC4R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image NormDiff_Inf ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_16u_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.18.2.6 NppStatus nppiNormDiff_Inf_16u_C1MR (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 16-bit unsigned images NormDiff_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_16u_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.18.2.7 NppStatus nppiNormDiff_Inf_16u_C1R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit unsigned image NormDiff_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_16u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.18.2.8 NppStatus nppiNormDiff_Inf_16u_C3CMR (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 16-bit unsigned image NormDiff_Inf affecting only single channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_16u_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.18.2.9 NppStatus nppiNormDiff_Inf_16u_C3R (const Npp16u $*$ *pSrc1*, int *nSrc1Step*, const Npp16u $*$ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u $*$ *pDeviceBuffer*)

Three-channel 16-bit unsigned image NormDiff_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_16u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.18.2.10 NppStatus nppiNormDiff_Inf_16u_C4R (const Npp16u $*$ *pSrc1*, int *nSrc1Step*, const Npp16u $*$ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[4], Npp8u $*$ *pDeviceBuffer*)

Four-channel 16-bit unsigned image NormDiff_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_16u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.18.2.11 NppStatus nppiNormDiff_Inf_32f_AC4R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image NormDiff_Inf ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.18.2.12 NppStatus nppiNormDiff_Inf_32f_C1MR (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 32-bit floating point images NormDiff_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_32f_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.18.2.13 NppStatus nppiNormDiff_Inf_32f_C1R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit floating point image NormDiff_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.18.2.14 NppStatus nppiNormDiff_Inf_32f_C3CMR (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 32-bit floating point image NormDiff_Inf affecting only single channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_32f_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.18.2.15 NppStatus nppiNormDiff_Inf_32f_C3R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point image NormDiff_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.18.2.16 NppStatus nppiNormDiff_Inf_32f_C4R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image NormDiff_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.18.2.17 NppStatus nppiNormDiff_Inf_8s_C1MR (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 8-bit signed images NormDiff_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_8s_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.18.2.18 NppStatus nppiNormDiff_Inf_8s_C3CMR (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 8-bit signed image NormDiff_Inf affecting only single channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_8s_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.18.2.19 NppStatus nppiNormDiff_Inf_8u_AC4R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image NormDiff_Inf ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_8u_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.18.2.20 NppStatus nppiNormDiff_Inf_8u_C1MR (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 8-bit unsigned images NormDiff_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_8u_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.18.2.21 NppStatus nppiNormDiff_Inf_8u_C1R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit unsigned image NormDiff_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_8u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.18.2.22 NppStatus nppiNormDiff_Inf_8u_C3CMR (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 8-bit unsigned image NormDiff_Inf affecting only single channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_8u_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.18.2.23 NppStatus nppiNormDiff_Inf_8u_C3R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image NormDiff_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_8u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.18.2.24 NppStatus nppiNormDiff_Inf_8u_C4R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image NormDiff_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffInfGetBufferHostSize_8u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.18.2.25 NppStatus nppiNormDiffInfGetBufferHostSize_16s_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_16s_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.26 NppStatus nppiNormDiffInfGetBufferHostSize_16s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.27 NppStatus nppiNormDiffInfGetBufferHostSize_16s_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.28 NppStatus nppiNormDiffInfGetBufferHostSize_16s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.29 NppStatus nppiNormDiffInfGetBufferHostSize_16u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_16u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.30 NppStatus nppiNormDiffInfGetBufferHostSize_16u_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_16u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.31 NppStatus nppiNormDiffInfGetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.32 NppStatus nppiNormDiffInfGetBufferHostSize_16u_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_16u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.33 NppStatus nppiNormDiffInfGetBufferHostSize_16u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.34 NppStatus nppiNormDiffInfGetBufferHostSize_16u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.35 NppStatus nppiNormDiffInfGetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.36 NppStatus nppiNormDiffInfGetBufferHostSize_32f_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_32f_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.37 NppStatus nppiNormDiffInfGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.38 NppStatus nppiNormDiffInfGetBufferHostSize_32f_C3CMR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_32f_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.39 NppStatus nppiNormDiffInfGetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.40 NppStatus nppiNormDiffInfGetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.41 NppStatus nppiNormDiffInfGetBufferHostSize_8s_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_8s_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.42 NppStatus nppiNormDiffInfGetBufferHostSize_8s_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_8s_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.43 NppStatus nppiNormDiffInfGetBufferHostSize_8u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.44 NppStatus nppiNormDiffInfGetBufferHostSize_8u_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_8u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.45 NppStatus nppiNormDiffInfGetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.46 NppStatus nppiNormDiffInfGetBufferHostSize_8u_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_8u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.47 NppStatus nppiNormDiffInfGetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.18.2.48 NppStatus nppiNormDiffInfGetBufferHostSize_8u_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size for nppiNormDiff_Inf_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19 NormDiff_L1

Primitives for computing the L1 norm of difference of pixels between two images.

Basic NormDiff_L1

- NppStatus nppiNormDiff_L1_8u_C1R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image NormDiff_L1.

- NppStatus nppiNormDiff_L1_16u_C1R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit unsigned image NormDiff_L1.

- NppStatus nppiNormDiff_L1_16s_C1R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit signed image NormDiff_L1.

- NppStatus nppiNormDiff_L1_32f_C1R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point image NormDiff_L1.

- NppStatus nppiNormDiff_L1_8u_C3R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image NormDiff_L1.

- NppStatus nppiNormDiff_L1_16u_C3R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit unsigned image NormDiff_L1.

- NppStatus nppiNormDiff_L1_16s_C3R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit signed image NormDiff_L1.

- NppStatus nppiNormDiff_L1_32f_C3R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point image NormDiff_L1.

- NppStatus nppiNormDiff_L1_8u_AC4R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image NormDiff_L1 ignoring alpha channel.

- NppStatus nppiNormDiff_L1_16u_AC4R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image NormDiff_L1 ignoring alpha channel.

- NppStatus nppiNormDiff_L1_16s_AC4R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed image NormDiff_L1 ignoring alpha channel.

- NppStatus nppiNormDiff_L1_32f_AC4R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image NormDiff_L1 ignoring alpha channel.

- NppStatus nppiNormDiff_L1_8u_C4R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[4], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image NormDiff_L1.

- NppStatus nppiNormDiff_L1_16u_C4R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[4], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image NormDiff_L1.

- NppStatus nppiNormDiff_L1_16s_C4R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[4], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed image NormDiff_L1.

- NppStatus nppiNormDiff_L1_32f_C4R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[4], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image NormDiff_L1.

Masked NormDiff_L1

See Masked Operation.

- NppStatus nppiNormDiff_L1_8u_C1MR (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked one-channel 8-bit unsigned image NormDiff_L1.

- NppStatus nppiNormDiff_L1_8s_C1MR (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked one-channel 8-bit signed image NormDiff_L1.

- NppStatus nppiNormDiff_L1_16u_C1MR (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked one-channel 16-bit unsigned image NormDiff_L1.

- NppStatus nppiNormDiff_L1_32f_C1MR (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked one-channel 32-bit floating point image NormDiff_L1.

Masked Channel NormDiff_L1

See Masked Operation and Channel-of-Interest API.

- NppStatus nppiNormDiff_L1_8u_C3CMR (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked three-channel 8-bit unsigned image NormDiff_L1 affecting only single channel.

- NppStatus nppiNormDiff_L1_8s_C3CMR (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked three-channel 8-bit signed image NormDiff_L1 affecting only single channel.

- NppStatus nppiNormDiff_L1_16u_C3CMR (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked three-channel 16-bit unsigned image NormDiff_L1 affecting only single channel.

- NppStatus nppiNormDiff_L1_32f_C3CMR (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked three-channel 32-bit floating point image NormDiff_L1 affecting only single channel.

NormDiffL1GetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the NormDiff_L1 primitives.

- NppStatus nppiNormDiffL1GetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_8u_C1R.

- NppStatus nppiNormDiffL1GetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_16u_C1R.

- NppStatus nppiNormDiffL1GetBufferHostSize_16s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_16s_C1R.

- NppStatus nppiNormDiffL1GetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_32f_C1R.

- NppStatus nppiNormDiffL1GetBufferHostSize_8u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_8u_C1MR.

- NppStatus nppiNormDiffL1GetBufferHostSize_8s_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_8s_C1MR.

- NppStatus nppiNormDiffL1GetBufferHostSize_16u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_16u_C1MR.

- NppStatus nppiNormDiffL1GetBufferHostSize_32f_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_32f_C1MR.

- NppStatus nppiNormDiffL1GetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_8u_C3R.

- NppStatus nppiNormDiffL1GetBufferHostSize_16u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_16u_C3R.

- NppStatus nppiNormDiffL1GetBufferHostSize_16s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_16s_C3R.

- NppStatus nppiNormDiffL1GetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_32f_C3R.

- NppStatus nppiNormDiffL1GetBufferHostSize_8u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_8u_C4R.

- NppStatus nppiNormDiffL1GetBufferHostSize_16u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_16u_C4R.

- NppStatus nppiNormDiffL1GetBufferHostSize_16s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_16s_C4R.

- NppStatus nppiNormDiffL1GetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_32f_C4R.

- NppStatus nppiNormDiffL1GetBufferHostSize_8u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_8u_AC4R.

- NppStatus nppiNormDiffL1GetBufferHostSize_16u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_16u_AC4R.

- NppStatus nppiNormDiffL1GetBufferHostSize_16s_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_16s_AC4R.

- NppStatus nppiNormDiffL1GetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_32f_AC4R.

- NppStatus nppiNormDiffL1GetBufferHostSize_8u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_8u_C3CMR.

- NppStatus nppiNormDiffL1GetBufferHostSize_8s_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_8s_C3CMR.

- NppStatus nppiNormDiffL1GetBufferHostSize_16u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_16u_C3CMR.

- NppStatus nppiNormDiffL1GetBufferHostSize_32f_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_32f_C3CMR.

7.19.1 Detailed Description

Primitives for computing the L1 norm of difference of pixels between two images.

7.19.2 Function Documentation

7.19.2.1 NppStatus nppiNormDiff_L1_16s_AC4R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image NormDiff_L1 ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_16s_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.19.2.2 NppStatus nppiNormDiff_L1_16s_C1R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit signed image NormDiff_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.19.2.3 NppStatus nppiNormDiff_L1_16s_C3R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit signed image NormDiff_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.19.2.4 NppStatus nppiNormDiff_L1_16s_C4R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image NormDiff_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.19.2.5 NppStatus nppiNormDiff_L1_16u_AC4R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image NormDiff_L1 ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_16u_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.19.2.6 NppStatus nppiNormDiff_L1_16u_C1MR (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 16-bit unsigned image NormDiff_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_16u_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.19.2.7 NppStatus nppiNormDiff_L1_16u_C1R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit unsigned image NormDiff_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_16u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.19.2.8 NppStatus nppiNormDiff_L1_16u_C3CMR (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 16-bit unsigned image NormDiff_L1 affecting only single channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_16u_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.19.2.9 NppStatus nppiNormDiff_L1_16u_C3R (const Npp16u * *pSrc1*, int *nSrc1Step*, const Npp16u * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u * *pDeviceBuffer*)

Three-channel 16-bit unsigned image NormDiff_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_16u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.19.2.10 NppStatus nppiNormDiff_L1_16u_C4R (const Npp16u * *pSrc1*, int *nSrc1Step*, const Npp16u * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[4], Npp8u * *pDeviceBuffer*)

Four-channel 16-bit unsigned image NormDiff_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_16u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.19.2.11 NppStatus nppiNormDiff_L1_32f_AC4R (const Npp32f * *pSrc1*, int *nSrc1Step*, const Npp32f * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u * *pDeviceBuffer*)

Four-channel 32-bit floating point image NormDiff_L1 ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.19.2.12 NppStatus nppiNormDiff_L1_32f_C1MR (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 32-bit floating point image NormDiff_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_32f_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.19.2.13 NppStatus nppiNormDiff_L1_32f_C1R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit floating point image NormDiff_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.19.2.14 NppStatus nppiNormDiff_L1_32f_C3CMR (const Npp32f $*$ *pSrc1*, int *nSrc1Step*, const Npp32f $*$ *pSrc2*, int *nSrc2Step*, const Npp8u $*$ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f $*$ *pNormDiff*, Npp8u $*$ *pDeviceBuffer*)

Masked three-channel 32-bit floating point image NormDiff_L1 affecting only single channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_32f_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.19.2.15 NppStatus nppiNormDiff_L1_32f_C3R (const Npp32f $*$ *pSrc1*, int *nSrc1Step*, const Npp32f $*$ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u $*$ *pDeviceBuffer*)

Three-channel 32-bit floating point image NormDiff_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.19.2.16 NppStatus nppiNormDiff_L1_32f_C4R (const Npp32f $*$ *pSrc1*, int *nSrc1Step*, const Npp32f $*$ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[4], Npp8u $*$ *pDeviceBuffer*)

Four-channel 32-bit floating point image NormDiff_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.19.2.17 NppStatus nppiNormDiff_L1_8s_C1MR (const Npp8s $*$ *pSrc1*, int *nSrc1Step*, const Npp8s $*$ *pSrc2*, int *nSrc2Step*, const Npp8u $*$ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f $*$ *pNormDiff*, Npp8u $*$ *pDeviceBuffer*)

Masked one-channel 8-bit signed image NormDiff_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_8s_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.19.2.18 NppStatus nppiNormDiff_L1_8s_C3CMR (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 8-bit signed image NormDiff_L1 affecting only single channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_8s_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.19.2.19 NppStatus nppiNormDiff_L1_8u_AC4R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image NormDiff_L1 ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_8u_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.19.2.20 NppStatus nppiNormDiff_L1_8u_C1MR (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 8-bit unsigned image NormDiff_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_8u_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.19.2.21 NppStatus nppiNormDiff_L1_8u_C1R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit unsigned image NormDiff_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_8u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.19.2.22 NppStatus nppiNormDiff_L1_8u_C3CMR (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 8-bit unsigned image NormDiff_L1 affecting only single channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_8u_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.19.2.23 NppStatus nppiNormDiff_L1_8u_C3R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image NormDiff_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_8u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.19.2.24 NppStatus nppiNormDiff_L1_8u_C4R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image NormDiff_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL1GetBufferHostSize_8u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.19.2.25 NppStatus nppiNormDiffL1GetBufferHostSize_16s_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_16s_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.26 NppStatus nppiNormDiffL1GetBufferHostSize_16s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.27 NppStatus nppiNormDiffL1GetBufferHostSize_16s_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.28 NppStatus nppiNormDiffL1GetBufferHostSize_16s_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.29 NppStatus nppiNormDiffL1GetBufferHostSize_16u_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_16u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.30 NppStatus nppiNormDiffL1GetBufferHostSize_16u_C1MR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_16u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.31 NppStatus nppiNormDiffL1GetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.32 NppStatus nppiNormDiffL1GetBufferHostSize_16u_C3CMR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_16u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.33 NppStatus nppiNormDiffL1GetBufferHostSize_16u_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.34 NppStatus nppiNormDiffL1GetBufferHostSize_16u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.35 NppStatus nppiNormDiffL1GetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.36 NppStatus nppiNormDiffL1GetBufferHostSize_32f_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_32f_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.37 NppStatus nppiNormDiffL1GetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.38 NppStatus nppiNormDiffL1GetBufferHostSize_32f_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_32f_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.39 NppStatus nppiNormDiffL1GetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.40 NppStatus nppiNormDiffL1GetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.41 NppStatus nppiNormDiffL1GetBufferHostSize_8s_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_8s_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.42 NppStatus nppiNormDiffL1GetBufferHostSize_8s_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_8s_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.43 NppStatus nppiNormDiffL1GetBufferHostSize_8u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.44 NppStatus nppiNormDiffL1GetBufferHostSize_8u_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_8u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.45 NppStatus nppiNormDiffL1GetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.46 NppStatus nppiNormDiffL1GetBufferHostSize_8u_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_8u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.47 NppStatus nppiNormDiffL1GetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.19.2.48 NppStatus nppiNormDiffL1GetBufferHostSize_8u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L1_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20 NormDiff_L2

Primitives for computing the L2 norm of difference of pixels between two images.

Basic NormDiff_L2

- NppStatus nppiNormDiff_L2_8u_C1R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image NormDiff_L2.

- NppStatus nppiNormDiff_L2_16u_C1R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit unsigned image NormDiff_L2.

- NppStatus nppiNormDiff_L2_16s_C1R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit signed image NormDiff_L2.

- NppStatus nppiNormDiff_L2_32f_C1R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point image NormDiff_L2.

- NppStatus nppiNormDiff_L2_8u_C3R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image NormDiff_L2.

- NppStatus nppiNormDiff_L2_16u_C3R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit unsigned image NormDiff_L2.

- NppStatus nppiNormDiff_L2_16s_C3R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit signed image NormDiff_L2.

- NppStatus nppiNormDiff_L2_32f_C3R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point image NormDiff_L2.

- NppStatus nppiNormDiff_L2_8u_AC4R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image NormDiff_L2 ignoring alpha channel.

- NppStatus nppiNormDiff_L2_16u_AC4R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image NormDiff_L2 ignoring alpha channel.

- NppStatus nppiNormDiff_L2_16s_AC4R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed image NormDiff_L2 ignoring alpha channel.

- NppStatus nppiNormDiff_L2_32f_AC4R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[3], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image NormDiff_L2 ignoring alpha channel.

- NppStatus nppiNormDiff_L2_8u_C4R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[4], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image NormDiff_L2.

- NppStatus nppiNormDiff_L2_16u_C4R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[4], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image NormDiff_L2.

- NppStatus nppiNormDiff_L2_16s_C4R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[4], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed image NormDiff_L2.

- NppStatus nppiNormDiff_L2_32f_C4R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormDiff[4], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image NormDiff_L2.

Masked NormDiff_L2

See Masked Operation.

- NppStatus nppiNormDiff_L2_8u_C1MR (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked one-channel 8-bit unsigned image NormDiff_L2.

- NppStatus nppiNormDiff_L2_8s_C1MR (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked one-channel 8-bit signed image NormDiff_L2.

- NppStatus nppiNormDiff_L2_16u_C1MR (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked one-channel 16-bit unsigned image NormDiff_L2.

- NppStatus nppiNormDiff_L2_32f_C1MR (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked one-channel 32-bit floating point image NormDiff_L2.

Masked Channel NormDiff_L2

See Masked Operation and Channel-of-Interest API.

- NppStatus nppiNormDiff_L2_8u_C3CMR (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked three-channel 8-bit unsigned image NormDiff_L2 affecting only single channel.

- NppStatus nppiNormDiff_L2_8s_C3CMR (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked three-channel 8-bit signed image NormDiff_L2 affecting only single channel.

- NppStatus nppiNormDiff_L2_16u_C3CMR (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked three-channel 16-bit unsigned image NormDiff_L2 affecting only single channel.

- NppStatus nppiNormDiff_L2_32f_C3CMR (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormDiff, Npp8u ∗pDeviceBuffer)

  Masked three-channel 32-bit floating point image NormDiff_L2 affecting only single channel.

NormDiffL2GetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the NormDiff_L2 primitives.

- NppStatus nppiNormDiffL2GetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_8u_C1R.

- NppStatus nppiNormDiffL2GetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_16u_C1R.

- NppStatus nppiNormDiffL2GetBufferHostSize_16s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_16s_C1R.

- NppStatus nppiNormDiffL2GetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_32f_C1R.

- NppStatus nppiNormDiffL2GetBufferHostSize_8u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_8u_C1MR.

- NppStatus nppiNormDiffL2GetBufferHostSize_8s_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_8s_C1MR.

- NppStatus nppiNormDiffL2GetBufferHostSize_16u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_16u_C1MR.

- NppStatus nppiNormDiffL2GetBufferHostSize_32f_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_32f_C1MR.

- NppStatus nppiNormDiffL2GetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_8u_C3R.

- NppStatus nppiNormDiffL2GetBufferHostSize_16u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_16u_C3R.

- NppStatus nppiNormDiffL2GetBufferHostSize_16s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_16s_C3R.

- NppStatus nppiNormDiffL2GetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_32f_C3R.

- NppStatus nppiNormDiffL2GetBufferHostSize_8u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_8u_C4R.

- NppStatus nppiNormDiffL2GetBufferHostSize_16u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_16u_C4R.

- NppStatus nppiNormDiffL2GetBufferHostSize_16s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_16s_C4R.

- NppStatus nppiNormDiffL2GetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_32f_C4R.

- NppStatus nppiNormDiffL2GetBufferHostSize_8u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_8u_AC4R.

- NppStatus nppiNormDiffL2GetBufferHostSize_16u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_16u_AC4R.

- NppStatus nppiNormDiffL2GetBufferHostSize_16s_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_16s_AC4R.

- NppStatus nppiNormDiffL2GetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_32f_AC4R.

- NppStatus nppiNormDiffL2GetBufferHostSize_8u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_8u_C3CMR.

- NppStatus nppiNormDiffL2GetBufferHostSize_8s_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_8s_C3CMR.

- NppStatus nppiNormDiffL2GetBufferHostSize_16u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_16u_C3CMR.

- NppStatus nppiNormDiffL2GetBufferHostSize_32f_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_32f_C3CMR.

7.20.1 Detailed Description

Primitives for computing the L2 norm of difference of pixels between two images.

7.20.2 Function Documentation

7.20.2.1 NppStatus nppiNormDiff_L2_16s_AC4R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image NormDiff_L2 ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_16s_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.20.2.2 NppStatus nppiNormDiff_L2_16s_C1R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit signed image NormDiff_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.20.2.3 NppStatus nppiNormDiff_L2_16s_C3R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit signed image NormDiff_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.20.2.4 NppStatus nppiNormDiff_L2_16s_C4R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image NormDiff_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.20.2.5 NppStatus nppiNormDiff_L2_16u_AC4R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image NormDiff_L2 ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_16u_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.20.2.6 NppStatus nppiNormDiff_L2_16u_C1MR (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 16-bit unsigned image NormDiff_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_16u_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.20.2.7 NppStatus nppiNormDiff_L2_16u_C1R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit unsigned image NormDiff_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_16u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.20.2.8 NppStatus nppiNormDiff_L2_16u_C3CMR (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 16-bit unsigned image NormDiff_L2 affecting only single channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_16u_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.20.2.9 NppStatus nppiNormDiff_L2_16u_C3R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit unsigned image NormDiff_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_16u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.20.2.10 NppStatus nppiNormDiff_L2_16u_C4R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image NormDiff_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_16u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.20.2.11 NppStatus nppiNormDiff_L2_32f_AC4R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image NormDiff_L2 ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.20.2.12 NppStatus nppiNormDiff_L2_32f_C1MR (const Npp32f * *pSrc1*, int *nSrc1Step*, const Npp32f * *pSrc2*, int *nSrc2Step*, const Npp8u * *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f * *pNormDiff*, Npp8u * *pDeviceBuffer*)

Masked one-channel 32-bit floating point image NormDiff_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_32f_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.20.2.13 NppStatus nppiNormDiff_L2_32f_C1R (const Npp32f * *pSrc1*, int *nSrc1Step*, const Npp32f * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pNormDiff*, Npp8u * *pDeviceBuffer*)

One-channel 32-bit floating point image NormDiff_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.20.2.14 NppStatus nppiNormDiff_L2_32f_C3CMR (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 32-bit floating point image NormDiff_L2 affecting only single channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_32f_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.20.2.15 NppStatus nppiNormDiff_L2_32f_C3R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point image NormDiff_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.20.2.16 NppStatus nppiNormDiff_L2_32f_C4R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image NormDiff_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.20.2.17 NppStatus nppiNormDiff_L2_8s_C1MR (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 8-bit signed image NormDiff_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_8s_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.20.2.18 NppStatus nppiNormDiff_L2_8s_C3CMR (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 8-bit signed image NormDiff_L2 affecting only single channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_8s_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.20.2.19 NppStatus nppiNormDiff_L2_8u_AC4R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image NormDiff_L2 ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_8u_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.20.2.20 NppStatus nppiNormDiff_L2_8u_C1MR (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 8-bit unsigned image NormDiff_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_8u_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.20.2.21 NppStatus nppiNormDiff_L2_8u_C1R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit unsigned image NormDiff_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_8u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.20.2.22 NppStatus nppiNormDiff_L2_8u_C3CMR (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormDiff*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 8-bit unsigned image NormDiff_L2 affecting only single channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormDiff Pointer to the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_8u_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified.

7.20.2.23 NppStatus nppiNormDiff_L2_8u_C3R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image NormDiff_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_8u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.20.2.24 NppStatus nppiNormDiff_L2_8u_C4R (const Npp8u * *pSrc1*, int *nSrc1Step*, const Npp8u * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormDiff*[4], Npp8u * *pDeviceBuffer*)

Four-channel 8-bit unsigned image NormDiff_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormDiff Array that contains computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormDiffL2GetBufferHostSize_8u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.20.2.25 NppStatus nppiNormDiffL2GetBufferHostSize_16s_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_16s_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.26 NppStatus nppiNormDiffL2GetBufferHostSize_16s_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.27 NppStatus nppiNormDiffL2GetBufferHostSize_16s_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.28 NppStatus nppiNormDiffL2GetBufferHostSize_16s_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.29 NppStatus nppiNormDiffL2GetBufferHostSize_16u_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_16u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.30 NppStatus nppiNormDiffL2GetBufferHostSize_16u_C1MR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_16u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.31 NppStatus nppiNormDiffL2GetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.32 NppStatus nppiNormDiffL2GetBufferHostSize_16u_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_16u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.33 NppStatus nppiNormDiffL2GetBufferHostSize_16u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.34 NppStatus nppiNormDiffL2GetBufferHostSize_16u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.35 NppStatus nppiNormDiffL2GetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.36 NppStatus nppiNormDiffL2GetBufferHostSize_32f_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_32f_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.37 NppStatus nppiNormDiffL2GetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.38 NppStatus nppiNormDiffL2GetBufferHostSize_32f_C3CMR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_32f_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.39 NppStatus nppiNormDiffL2GetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.40 NppStatus nppiNormDiffL2GetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.41 NppStatus nppiNormDiffL2GetBufferHostSize_8s_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_8s_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.42 NppStatus nppiNormDiffL2GetBufferHostSize_8s_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_8s_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.43 NppStatus nppiNormDiffL2GetBufferHostSize_8u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.44 NppStatus nppiNormDiffL2GetBufferHostSize_8u_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_8u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.45 NppStatus nppiNormDiffL2GetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.46 NppStatus nppiNormDiffL2GetBufferHostSize_8u_C3CMR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_8u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.47 NppStatus nppiNormDiffL2GetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.20.2.48 NppStatus nppiNormDiffL2GetBufferHostSize_8u_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormDiff_L2_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21 NormRel_Inf

Primitives for computing the relative error of infinity norm between two images.

Basic NormRel_Inf

- NppStatus nppiNormRel_Inf_8u_C1R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image NormRel_Inf.

- NppStatus nppiNormRel_Inf_16u_C1R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit unsigned image NormRel_Inf.

- NppStatus nppiNormRel_Inf_16s_C1R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit signed image NormRel_Inf.

- NppStatus nppiNormRel_Inf_32f_C1R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point image NormRel_Inf.

- NppStatus nppiNormRel_Inf_8u_C3R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image NormRel_Inf.

- NppStatus nppiNormRel_Inf_16u_C3R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit unsigned image NormRel_Inf.

- NppStatus nppiNormRel_Inf_16s_C3R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit signed image NormRel_Inf.

- NppStatus nppiNormRel_Inf_32f_C3R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point image NormRel_Inf.

- NppStatus nppiNormRel_Inf_8u_AC4R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image NormRel_Inf ignoring alpha channel.

- NppStatus nppiNormRel_Inf_16u_AC4R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image NormRel_Inf ignoring alpha channel.

- NppStatus nppiNormRel_Inf_16s_AC4R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed image NormRel_Inf ignoring alpha channel.

- NppStatus nppiNormRel_Inf_32f_AC4R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

    Four-channel 32-bit floating point image NormRel_Inf ignoring alpha channel.

- NppStatus nppiNormRel_Inf_8u_C4R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[4], Npp8u ∗pDeviceBuffer)

    Four-channel 8-bit unsigned image NormRel_Inf.

- NppStatus nppiNormRel_Inf_16u_C4R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[4], Npp8u ∗pDeviceBuffer)

    Four-channel 16-bit unsigned image NormRel_Inf.

- NppStatus nppiNormRel_Inf_16s_C4R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[4], Npp8u ∗pDeviceBuffer)

    Four-channel 16-bit signed image NormRel_Inf.

- NppStatus nppiNormRel_Inf_32f_C4R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[4], Npp8u ∗pDeviceBuffer)

    Four-channel 32-bit floating point image NormRel_Inf.

Masked NormRel_Inf

See Masked Operation.

- NppStatus nppiNormRel_Inf_8u_C1MR (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

    Masked one-channel 8-bit unsigned image NormRel_Inf.

- NppStatus nppiNormRel_Inf_8s_C1MR (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

    Masked one-channel 8-bit signed image NormRel_Inf.

- NppStatus nppiNormRel_Inf_16u_C1MR (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

    Masked one-channel 16-bit unsigned image NormRel_Inf.

- NppStatus nppiNormRel_Inf_32f_C1MR (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

    Masked one-channel 32-bit floating point image NormRel_Inf.

Masked Channel NormRel_Inf

See Masked Operation and Channel-of-Interest API.

- NppStatus nppiNormRel_Inf_8u_C3CMR (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  Masked three-channel 8-bit unsigned image NormRel_Inf affecting only signle channel.

- NppStatus nppiNormRel_Inf_8s_C3CMR (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  Masked three-channel 8-bit signed image NormRel_Inf affecting only signle channel.

- NppStatus nppiNormRel_Inf_16u_C3CMR (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  Masked three-channel 16-bit unsigned image NormRel_Inf affecting only signle channel.

- NppStatus nppiNormRel_Inf_32f_C3CMR (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  Masked three-channel 32-bit floating point image NormRel_Inf affecting only signle channel.

NormRelInfGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the NormRel_Inf primitives.

- NppStatus nppiNormRelInfGetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_8u_C1R.

- NppStatus nppiNormRelInfGetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_16u_C1R.

- NppStatus nppiNormRelInfGetBufferHostSize_16s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_16s_C1R.

- NppStatus nppiNormRelInfGetBufferHostSize_32s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_32s_C1R.

- NppStatus nppiNormRelInfGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_32f_C1R.

- NppStatus nppiNormRelInfGetBufferHostSize_8u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_8u_C1MR.

- NppStatus nppiNormRelInfGetBufferHostSize_8s_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_8s_C1MR.

- NppStatus nppiNormRelInfGetBufferHostSize_16u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_16u_C1MR.

- NppStatus nppiNormRelInfGetBufferHostSize_32f_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_32f_C1MR.

- NppStatus nppiNormRelInfGetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_8u_C3R.

- NppStatus nppiNormRelInfGetBufferHostSize_16u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_16u_C3R.

- NppStatus nppiNormRelInfGetBufferHostSize_16s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_16s_C3R.

- NppStatus nppiNormRelInfGetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_32f_C3R.

- NppStatus nppiNormRelInfGetBufferHostSize_8u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_8u_C4R.

- NppStatus nppiNormRelInfGetBufferHostSize_16u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_16u_C4R.

- NppStatus nppiNormRelInfGetBufferHostSize_16s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_16s_C4R.

- NppStatus nppiNormRelInfGetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_32f_C4R.

- NppStatus nppiNormRelInfGetBufferHostSize_8u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_8u_AC4R.

- NppStatus nppiNormRelInfGetBufferHostSize_16u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_16u_AC4R.

- NppStatus nppiNormRelInfGetBufferHostSize_16s_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_16s_AC4R.

- NppStatus nppiNormRelInfGetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_32f_AC4R.

- NppStatus nppiNormRelInfGetBufferHostSize_8u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_8u_C3CMR.

- NppStatus nppiNormRelInfGetBufferHostSize_8s_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_8s_C3CMR.

- NppStatus nppiNormRelInfGetBufferHostSize_16u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_16u_C3CMR.

- NppStatus nppiNormRelInfGetBufferHostSize_32f_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_32f_C3CMR.

7.21.1 Detailed Description

Primitives for computing the relative error of infinity norm between two images.

7.21.2 Function Documentation

7.21.2.1 NppStatus nppiNormRel_Inf_16s_AC4R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image NormRel_Inf ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_16s_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.2 NppStatus nppiNormRel_Inf_16s_C1R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit signed image NormRel_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.3 NppStatus nppiNormRel_Inf_16s_C3R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit signed image NormRel_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.4 NppStatus nppiNormRel_Inf_16s_C4R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image NormRel_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.5 NppStatus nppiNormRel_Inf_16u_AC4R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image NormRel_Inf ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_16u_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.6 NppStatus nppiNormRel_Inf_16u_C1MR (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 16-bit unsigned image NormRel_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_16u_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.7 NppStatus nppiNormRel_Inf_16u_C1R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit unsigned image NormRel_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_16u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.8 NppStatus nppiNormRel_Inf_16u_C3CMR (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 16-bit unsigned image NormRel_Inf affecting only signle channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormRel Pointer to the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_16u_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_COI_ERROR if an invalid channel of interest is specified, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.9 NppStatus nppiNormRel_Inf_16u_C3R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit unsigned image NormRel_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_16u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.10 NppStatus nppiNormRel_Inf_16u_C4R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image NormRel_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_16u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.11 NppStatus nppiNormRel_Inf_32f_AC4R (const Npp32f * *pSrc1*, int *nSrc1Step*, const Npp32f * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u * *pDeviceBuffer*)

Four-channel 32-bit floating point image NormRel_Inf ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.12 NppStatus nppiNormRel_Inf_32f_C1MR (const Npp32f * *pSrc1*, int *nSrc1Step*, const Npp32f * *pSrc2*, int *nSrc2Step*, const Npp8u * *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f * *pNormRel*, Npp8u * *pDeviceBuffer*)

Masked one-channel 32-bit floating point image NormRel_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_32f_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.13 NppStatus nppiNormRel_Inf_32f_C1R (const Npp32f * *pSrc1*, int *nSrc1Step*, const Npp32f * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pNormRel*, Npp8u * *pDeviceBuffer*)

One-channel 32-bit floating point image NormRel_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.14 NppStatus nppiNormRel_Inf_32f_C3CMR (const Npp32f * *pSrc1*, int *nSrc1Step*, const Npp32f * *pSrc2*, int *nSrc2Step*, const Npp8u * *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f * *pNormRel*, Npp8u * *pDeviceBuffer*)

Masked three-channel 32-bit floating point image NormRel_Inf affecting only signle channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormRel Pointer to the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_32f_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_COI_ERROR if an invalid channel of interest is specified, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.15 NppStatus nppiNormRel_Inf_32f_C3R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point image NormRel_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.16 NppStatus nppiNormRel_Inf_32f_C4R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image NormRel_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.17 NppStatus nppiNormRel_Inf_8s_C1MR (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 8-bit signed image NormRel_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_8s_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.18 NppStatus nppiNormRel_Inf_8s_C3CMR (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 8-bit signed image NormRel_Inf affecting only signle channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormRel Pointer to the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_8s_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_COI_ERROR if an invalid channel of interest is specified, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.19 NppStatus nppiNormRel_Inf_8u_AC4R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image NormRel_Inf ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_8u_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.20 NppStatus nppiNormRel_Inf_8u_C1MR (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 8-bit unsigned image NormRel_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_8u_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.21 NppStatus nppiNormRel_Inf_8u_C1R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit unsigned image NormRel_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_8u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.22 NppStatus nppiNormRel_Inf_8u_C3CMR (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 8-bit unsigned image NormRel_Inf affecting only signle channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormRel Pointer to the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_8u_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_COI_ERROR if an invalid channel of interest is specified, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.23 NppStatus nppiNormRel_Inf_8u_C3R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image NormRel_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_8u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.24 NppStatus nppiNormRel_Inf_8u_C4R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image NormRel_Inf.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the infinity norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelInfGetBufferHostSize_8u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the infinity norm of the second image is zero.

7.21.2.25 NppStatus nppiNormRelInfGetBufferHostSize_16s_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_16s_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.26 NppStatus nppiNormRelInfGetBufferHostSize_16s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.27 NppStatus nppiNormRelInfGetBufferHostSize_16s_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.28 NppStatus nppiNormRelInfGetBufferHostSize_16s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.29 NppStatus nppiNormRelInfGetBufferHostSize_16u_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_16u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.30 NppStatus nppiNormRelInfGetBufferHostSize_16u_C1MR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_16u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.31 NppStatus nppiNormRelInfGetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.32 NppStatus nppiNormRelInfGetBufferHostSize_16u_C3CMR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_16u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.33 NppStatus nppiNormRelInfGetBufferHostSize_16u_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.34 NppStatus nppiNormRelInfGetBufferHostSize_16u_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.35 NppStatus nppiNormRelInfGetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.36 NppStatus nppiNormRelInfGetBufferHostSize_32f_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_32f_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.37 NppStatus nppiNormRelInfGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.38 NppStatus nppiNormRelInfGetBufferHostSize_32f_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_32f_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.39 NppStatus nppiNormRelInfGetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.40 NppStatus nppiNormRelInfGetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.41 NppStatus nppiNormRelInfGetBufferHostSize_32s_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_32s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.42 NppStatus nppiNormRelInfGetBufferHostSize_8s_C1MR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_8s_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.43 NppStatus nppiNormRelInfGetBufferHostSize_8s_C3CMR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_8s_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.44 NppStatus nppiNormRelInfGetBufferHostSize_8u_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.45 NppStatus nppiNormRelInfGetBufferHostSize_8u_C1MR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_8u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.46 NppStatus nppiNormRelInfGetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.47 NppStatus nppiNormRelInfGetBufferHostSize_8u_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_8u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.48 NppStatus nppiNormRelInfGetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.21.2.49 NppStatus nppiNormRelInfGetBufferHostSize_8u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_Inf_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22 NormRel_L1

Primitives for computing the relative error of L1 norm between two images.

Basic NormRel_L1

- NppStatus nppiNormRel_L1_8u_C1R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image NormRel_L1.

- NppStatus nppiNormRel_L1_16u_C1R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit unsigned image NormRel_L1.

- NppStatus nppiNormRel_L1_16s_C1R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit signed image NormRel_L1.

- NppStatus nppiNormRel_L1_32f_C1R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point image NormRel_L1.

- NppStatus nppiNormRel_L1_8u_C3R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image NormRel_L1.

- NppStatus nppiNormRel_L1_16u_C3R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit unsigned image NormRel_L1.

- NppStatus nppiNormRel_L1_16s_C3R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit signed image NormRel_L1.

- NppStatus nppiNormRel_L1_32f_C3R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point image NormRel_L1.

- NppStatus nppiNormRel_L1_8u_AC4R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit signed image NormRel_L1 ignoring alpha channel.

- NppStatus nppiNormRel_L1_16u_AC4R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image NormRel_L1 ignoring alpha channel.

- NppStatus nppiNormRel_L1_16s_AC4R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed image NormRel_L1 ignoring alpha channel.

- NppStatus nppiNormRel_L1_32f_AC4R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image NormRel_L1 ignoring alpha channel.

- NppStatus nppiNormRel_L1_8u_C4R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[4], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image NormRel_L1.

- NppStatus nppiNormRel_L1_16u_C4R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[4], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image NormRel_L1.

- NppStatus nppiNormRel_L1_16s_C4R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[4], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed image NormRel_L1.

- NppStatus nppiNormRel_L1_32f_C4R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[4], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image NormRel_L1.

Masked NormRel_L1

See Masked Operation.

- NppStatus nppiNormRel_L1_8u_C1MR (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image NormRel_L1.

- NppStatus nppiNormRel_L1_8s_C1MR (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit signed image NormRel_L1.

- NppStatus nppiNormRel_L1_16u_C1MR (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit unsigned image NormRel_L1.

- NppStatus nppiNormRel_L1_32f_C1MR (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point image NormRel_L1.

Masked Channel NormRel_L1

See Masked Operation and Channel-of-Interest API.

- NppStatus nppiNormRel_L1_8u_C3CMR (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  Masked three-channel 8-bit unsigned image NormRel_L1 affecting only single channel.

- NppStatus nppiNormRel_L1_8s_C3CMR (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  Masked three-channel 8-bit signed image NormRel_L1 affecting only single channel.

- NppStatus nppiNormRel_L1_16u_C3CMR (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  Masked three-channel 16-bit unsigned image NormRel_L1 affecting only single channel.

- NppStatus nppiNormRel_L1_32f_C3CMR (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  Masked three-channel 32-bit floating point image NormRel_L1 affecting only single channel.

NormRelL1GetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the NormRel_L1 primitives.

- NppStatus nppiNormRelL1GetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_8u_C1R.

- NppStatus nppiNormRelL1GetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_16u_C1R.

- NppStatus nppiNormRelL1GetBufferHostSize_16s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_16s_C1R.

- NppStatus nppiNormRelL1GetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_32f_C1R.

- NppStatus nppiNormRelL1GetBufferHostSize_8u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_8u_C1MR.

- NppStatus nppiNormRelL1GetBufferHostSize_8s_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_8s_C1MR.

- NppStatus nppiNormRelL1GetBufferHostSize_16u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_16u_C1MR.

- NppStatus nppiNormRelL1GetBufferHostSize_32f_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_32f_C1MR.

- NppStatus nppiNormRelL1GetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_8u_C3R.

- NppStatus nppiNormRelL1GetBufferHostSize_16u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_16u_C3R.

- NppStatus nppiNormRelL1GetBufferHostSize_16s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_16s_C3R.

- NppStatus nppiNormRelL1GetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_32f_C3R.

- NppStatus nppiNormRelL1GetBufferHostSize_8u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_8u_C4R.

- NppStatus nppiNormRelL1GetBufferHostSize_16u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_16u_C4R.

- NppStatus nppiNormRelL1GetBufferHostSize_16s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_16s_C4R.

- NppStatus nppiNormRelL1GetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_32f_C4R.

- NppStatus nppiNormRelL1GetBufferHostSize_8u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_8u_AC4R.

- NppStatus nppiNormRelL1GetBufferHostSize_16u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_16u_AC4R.

- NppStatus nppiNormRelL1GetBufferHostSize_16s_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_16s_AC4R.

- NppStatus nppiNormRelL1GetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_32f_AC4R.

- NppStatus nppiNormRelL1GetBufferHostSize_8u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_8u_C3CMR.

- NppStatus nppiNormRelL1GetBufferHostSize_8s_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_8s_C3CMR.

- NppStatus nppiNormRelL1GetBufferHostSize_16u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_16u_C3CMR.

- NppStatus nppiNormRelL1GetBufferHostSize_32f_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_32f_C3CMR.

7.22.1 Detailed Description

Primitives for computing the relative error of L1 norm between two images.

7.22.2 Function Documentation

7.22.2.1 NppStatus nppiNormRel_L1_16s_AC4R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image NormRel_L1 ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_16s_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.2 NppStatus nppiNormRel_L1_16s_C1R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit signed image NormRel_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.3 NppStatus nppiNormRel_L1_16s_C3R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit signed image NormRel_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.4 NppStatus nppiNormRel_L1_16s_C4R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image NormRel_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.5 NppStatus nppiNormRel_L1_16u_AC4R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image NormRel_L1 ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_16u_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.6 NppStatus nppiNormRel_L1_16u_C1MR (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit unsigned image NormRel_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_16u_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.7 NppStatus nppiNormRel_L1_16u_C1R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit unsigned image NormRel_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_16u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.8 NppStatus nppiNormRel_L1_16u_C3CMR (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 16-bit unsigned image NormRel_L1 affecting only single channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormRel Pointer to the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_16u_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.9 NppStatus nppiNormRel_L1_16u_C3R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit unsigned image NormRel_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_16u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.10 NppStatus nppiNormRel_L1_16u_C4R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image NormRel_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_16u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.11 NppStatus nppiNormRel_L1_32f_AC4R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image NormRel_L1 ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.12 NppStatus nppiNormRel_L1_32f_C1MR (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit floating point image NormRel_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_32f_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.13 NppStatus nppiNormRel_L1_32f_C1R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit floating point image NormRel_L1.

Parameters:

- ***pSrc1*** Source-Image Pointer.
- ***nSrc1Step*** Source-Image Line Step.
- ***pSrc2*** Source-Image Pointer.
- ***nSrc2Step*** Source-Image Line Step.
- ***oSizeROI*** Region-of-Interest (ROI).
- ***pNormRel*** Pointer to the computed relative error for the L1 norm of two images.
- ***pDeviceBuffer*** Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.14 NppStatus nppiNormRel_L1_32f_C3CMR (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 32-bit floating point image NormRel_L1 affecting only single channel.

Parameters:

- ***pSrc1*** Source-Image Pointer.
- ***nSrc1Step*** Source-Image Line Step.
- ***pSrc2*** Source-Image Pointer.
- ***nSrc2Step*** Source-Image Line Step.
- ***pMask*** Mask-Image Pointer.
- ***nMaskStep*** Mask-Image Line Step.
- ***oSizeROI*** Region-of-Interest (ROI).
- ***nCOI*** Channel_of_Interest Number.
- ***pNormRel*** Pointer to the computed relative error for the L1 norm of two images.
- ***pDeviceBuffer*** Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_32f_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.15 NppStatus nppiNormRel_L1_32f_C3R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point image NormRel_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.16 NppStatus nppiNormRel_L1_32f_C4R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image NormRel_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.17 NppStatus nppiNormRel_L1_8s_C1MR (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit signed image NormRel_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_8s_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.18 NppStatus nppiNormRel_L1_8s_C3CMR (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 8-bit signed image NormRel_L1 affecting only single channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormRel Pointer to the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_8s_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.19 NppStatus nppiNormRel_L1_8u_AC4R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit signed image NormRel_L1 ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_8u_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.20 NppStatus nppiNormRel_L1_8u_C1MR (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit unsigned image NormRel_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_8u_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.21 NppStatus nppiNormRel_L1_8u_C1R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit unsigned image NormRel_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_8u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.22 NppStatus nppiNormRel_L1_8u_C3CMR (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 8-bit unsigned image NormRel_L1 affecting only single channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormRel Pointer to the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_8u_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.23 NppStatus nppiNormRel_L1_8u_C3R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image NormRel_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_8u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.24 NppStatus nppiNormRel_L1_8u_C4R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image NormRel_L1.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L1 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL1GetBufferHostSize_8u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L1 norm of the second image is zero.

7.22.2.25 NppStatus nppiNormRelL1GetBufferHostSize_16s_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_16s_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.26 NppStatus nppiNormRelL1GetBufferHostSize_16s_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.27 NppStatus nppiNormRelL1GetBufferHostSize_16s_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.28 NppStatus nppiNormRelL1GetBufferHostSize_16s_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.29 NppStatus nppiNormRelL1GetBufferHostSize_16u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_16u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.30 NppStatus nppiNormRelL1GetBufferHostSize_16u_C1MR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_16u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.31 NppStatus nppiNormRelL1GetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.32 NppStatus nppiNormRelL1GetBufferHostSize_16u_C3CMR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_16u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.33 NppStatus nppiNormRelL1GetBufferHostSize_16u_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.34 NppStatus nppiNormRelL1GetBufferHostSize_16u_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.35 NppStatus nppiNormRelL1GetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.36 NppStatus nppiNormRelL1GetBufferHostSize_32f_C1MR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_32f_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.37 NppStatus nppiNormRelL1GetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.38 NppStatus nppiNormRelL1GetBufferHostSize_32f_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_32f_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.39 NppStatus nppiNormRelL1GetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.40 NppStatus nppiNormRelL1GetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.41 NppStatus nppiNormRelL1GetBufferHostSize_8s_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_8s_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.42 NppStatus nppiNormRelL1GetBufferHostSize_8s_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_8s_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.43 NppStatus nppiNormRelL1GetBufferHostSize_8u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.44 NppStatus nppiNormRelL1GetBufferHostSize_8u_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_8u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.45 NppStatus nppiNormRelL1GetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.46 NppStatus nppiNormRelL1GetBufferHostSize_8u_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_8u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.47 NppStatus nppiNormRelL1GetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.22.2.48 NppStatus nppiNormRelL1GetBufferHostSize_8u_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L1_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23 NormRel_L2

Primitives for computing the relative error of L2 norm between two images.

Basic NormRel_L2

- NppStatus nppiNormRel_L2_8u_C1R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image NormRel_L2.

- NppStatus nppiNormRel_L2_16u_C1R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit unsigned image NormRel_L2.

- NppStatus nppiNormRel_L2_16s_C1R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit signed image NormRel_L2.

- NppStatus nppiNormRel_L2_32f_C1R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point image NormRel_L2.

- NppStatus nppiNormRel_L2_8u_C3R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image NormRel_L2.

- NppStatus nppiNormRel_L2_16u_C3R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit unsigned image NormRel_L2.

- NppStatus nppiNormRel_L2_16s_C3R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit signed image NormRel_L2.

- NppStatus nppiNormRel_L2_32f_C3R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point image NormRel_L2.

- NppStatus nppiNormRel_L2_8u_AC4R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image NormRel_L2 ignoring alpha channel.

- NppStatus nppiNormRel_L2_16u_AC4R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image NormRel_L2 ignoring alpha channel.

- NppStatus nppiNormRel_L2_16s_AC4R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed image NormRel_L2 ignoring alpha channel.

- NppStatus nppiNormRel_L2_32f_AC4R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[3], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image NormRel_L2 ignoring alpha channel.

- NppStatus nppiNormRel_L2_8u_C4R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[4], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image NormRel_L2.

- NppStatus nppiNormRel_L2_16u_C4R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[4], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image NormRel_L2.

- NppStatus nppiNormRel_L2_16s_C4R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[4], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed image NormRel_L2.

- NppStatus nppiNormRel_L2_32f_C4R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aNormRel[4], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image NormRel_L2.

Masked NormRel_L2

See Masked Operation.

- NppStatus nppiNormRel_L2_8u_C1MR (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  Masked one-channel 8-bit unsigned image NormRel_L2.

- NppStatus nppiNormRel_L2_8s_C1MR (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  Masked one-channel 8-bit signed image NormRel_L2.

- NppStatus nppiNormRel_L2_16u_C1MR (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  Masked one-channel 16-bit unsigned image NormRel_L2.

- NppStatus nppiNormRel_L2_32f_C1MR (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  Masked one-channel 32-bit floating point image NormRel_L2.

Masked Channel NormRel_L2

See Masked Operation and Channel-of-Interest API.

- NppStatus nppiNormRel_L2_8u_C3CMR (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  Masked three-channel 8-bit unsigned image NormRel_L2 affecting only single channel.

- NppStatus nppiNormRel_L2_8s_C3CMR (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  Masked three-channel 8-bit signed image NormRel_L2 affecting only single channel.

- NppStatus nppiNormRel_L2_16u_C3CMR (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  Masked three-channel 16-bit unsigned image NormRel_L2 affecting only single channel.

- NppStatus nppiNormRel_L2_32f_C3CMR (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, const Npp8u ∗pMask, int nMaskStep, NppiSize oSizeROI, int nCOI, Npp64f ∗pNormRel, Npp8u ∗pDeviceBuffer)

  Masked three-channel 32-bit floating point image NormRel_L2 affecting only single channel.

NormRelL2GetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the NormRel_L2 primitives.

- NppStatus nppiNormRelL2GetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_8u_C1R.

- NppStatus nppiNormRelL2GetBufferHostSize_16u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_16u_C1R.

- NppStatus nppiNormRelL2GetBufferHostSize_16s_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_16s_C1R.

- NppStatus nppiNormRelL2GetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_32f_C1R.

- NppStatus nppiNormRelL2GetBufferHostSize_8u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_8u_C1MR.

- NppStatus nppiNormRelL2GetBufferHostSize_8s_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_8s_C1MR.

- NppStatus nppiNormRelL2GetBufferHostSize_16u_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_16u_C1MR.

- NppStatus nppiNormRelL2GetBufferHostSize_32f_C1MR (NppiSize oSizeROI, int ∗hpBufferSize)

    Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_32f_C1MR.

- NppStatus nppiNormRelL2GetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

    Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_8u_C3R.

- NppStatus nppiNormRelL2GetBufferHostSize_16u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

    Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_16u_C3R.

- NppStatus nppiNormRelL2GetBufferHostSize_16s_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

    Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_16s_C3R.

- NppStatus nppiNormRelL2GetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

    Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_32f_C3R.

- NppStatus nppiNormRelL2GetBufferHostSize_8u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

    Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_8u_C4R.

- NppStatus nppiNormRelL2GetBufferHostSize_16u_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

    Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_16u_C4R.

- NppStatus nppiNormRelL2GetBufferHostSize_16s_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

    Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_16s_C4R.

- NppStatus nppiNormRelL2GetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

    Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_32f_C4R.

- NppStatus nppiNormRelL2GetBufferHostSize_8u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

    Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_8u_AC4R.

- NppStatus nppiNormRelL2GetBufferHostSize_16u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

    Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_16u_AC4R.

- NppStatus nppiNormRelL2GetBufferHostSize_16s_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

    Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_16s_AC4R.

- NppStatus nppiNormRelL2GetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

    Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_32f_AC4R.

- NppStatus nppiNormRelL2GetBufferHostSize_8u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

    Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_8u_C3CMR.

- NppStatus nppiNormRelL2GetBufferHostSize_8s_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_8s_C3CMR.

- NppStatus nppiNormRelL2GetBufferHostSize_16u_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_16u_C3CMR.

- NppStatus nppiNormRelL2GetBufferHostSize_32f_C3CMR (NppiSize oSizeROI, int ∗hpBufferSize)

  Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_32f_C3CMR.

7.23.1 Detailed Description

Primitives for computing the relative error of L2 norm between two images.

7.23.2 Function Documentation

7.23.2.1 NppStatus nppiNormRel_L2_16s_AC4R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image NormRel_L2 ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_16s_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.2 NppStatus nppiNormRel_L2_16s_C1R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit signed image NormRel_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.3 NppStatus nppiNormRel_L2_16s_C3R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit signed image NormRel_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.4 NppStatus nppiNormRel_L2_16s_C4R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image NormRel_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.5 NppStatus nppiNormRel_L2_16u_AC4R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image NormRel_L2 ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_16u_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.6 NppStatus nppiNormRel_L2_16u_C1MR (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 16-bit unsigned image NormRel_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_16u_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.7 NppStatus nppiNormRel_L2_16u_C1R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit unsigned image NormRel_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_16u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.8 NppStatus nppiNormRel_L2_16u_C3CMR (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 16-bit unsigned image NormRel_L2 affecting only single channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormRel Pointer to the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_16u_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_COI_ERROR if an invalid channel of interest is specified, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.9 NppStatus nppiNormRel_L2_16u_C3R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit unsigned image NormRel_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_16u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.10 NppStatus nppiNormRel_L2_16u_C4R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image NormRel_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_16u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.11 NppStatus nppiNormRel_L2_32f_AC4R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image NormRel_L2 ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.12 NppStatus nppiNormRel_L2_32f_C1MR (const Npp32f * *pSrc1*, int *nSrc1Step*, const Npp32f * *pSrc2*, int *nSrc2Step*, const Npp8u * *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f * *pNormRel*, Npp8u * *pDeviceBuffer*)

Masked one-channel 32-bit floating point image NormRel_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_32f_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.13 NppStatus nppiNormRel_L2_32f_C1R (const Npp32f * *pSrc1*, int *nSrc1Step*, const Npp32f * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pNormRel*, Npp8u * *pDeviceBuffer*)

One-channel 32-bit floating point image NormRel_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.14 NppStatus nppiNormRel_L2_32f_C3CMR (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 32-bit floating point image NormRel_L2 affecting only single channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormRel Pointer to the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_32f_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_COI_ERROR if an invalid channel of interest is specified, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.15 NppStatus nppiNormRel_L2_32f_C3R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point image NormRel_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.16 NppStatus nppiNormRel_L2_32f_C4R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image NormRel_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.17 NppStatus nppiNormRel_L2_8s_C1MR (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 8-bit signed image NormRel_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_8s_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.18 NppStatus nppiNormRel_L2_8s_C3CMR (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 8-bit signed image NormRel_L2 affecting only single channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormRel Pointer to the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_8s_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.19 NppStatus nppiNormRel_L2_8u_AC4R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image NormRel_L2 ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_8u_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.20 NppStatus nppiNormRel_L2_8u_C1MR (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

Masked one-channel 8-bit unsigned image NormRel_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_8u_C1MR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.21 NppStatus nppiNormRel_L2_8u_C1R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit unsigned image NormRel_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pNormRel Pointer to the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_8u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.22 NppStatus nppiNormRel_L2_8u_C3CMR (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, const Npp8u ∗ *pMask*, int *nMaskStep*, NppiSize *oSizeROI*, int *nCOI*, Npp64f ∗ *pNormRel*, Npp8u ∗ *pDeviceBuffer*)

Masked three-channel 8-bit unsigned image NormRel_L2 affecting only single channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

pMask Mask-Image Pointer.

nMaskStep Mask-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nCOI Channel_of_Interest Number.

pNormRel Pointer to the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_8u_C3CMR to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_COI_ERROR if an invalid channel of interest is specified, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.23 NppStatus nppiNormRel_L2_8u_C3R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image NormRel_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_8u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.24 NppStatus nppiNormRel_L2_8u_C4R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aNormRel*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image NormRel_L2.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aNormRel Array that contains the computed relative error for the L2 norm of two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiNormRelL2GetBufferHostSize_8u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_DIVISOR_ERROR if the L2 norm of the second image is zero.

7.23.2.25 NppStatus nppiNormRelL2GetBufferHostSize_16s_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_16s_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.26 NppStatus nppiNormRelL2GetBufferHostSize_16s_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.27 NppStatus nppiNormRelL2GetBufferHostSize_16s_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.28 NppStatus nppiNormRelL2GetBufferHostSize_16s_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.29 NppStatus nppiNormRelL2GetBufferHostSize_16u_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_16u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.30 NppStatus nppiNormRelL2GetBufferHostSize_16u_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_16u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.31 NppStatus nppiNormRelL2GetBufferHostSize_16u_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.32 NppStatus nppiNormRelL2GetBufferHostSize_16u_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_16u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.33 NppStatus nppiNormRelL2GetBufferHostSize_16u_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.34 NppStatus nppiNormRelL2GetBufferHostSize_16u_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.35 NppStatus nppiNormRelL2GetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.36 NppStatus nppiNormRelL2GetBufferHostSize_32f_C1MR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_32f_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.37 NppStatus nppiNormRelL2GetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.38 NppStatus nppiNormRelL2GetBufferHostSize_32f_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_32f_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.39 NppStatus nppiNormRelL2GetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.40 NppStatus nppiNormRelL2GetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.41 NppStatus nppiNormRelL2GetBufferHostSize_8s_C1MR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_8s_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.42 NppStatus nppiNormRelL2GetBufferHostSize_8s_C3CMR (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_8s_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.43 NppStatus nppiNormRelL2GetBufferHostSize_8u_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.44 NppStatus nppiNormRelL2GetBufferHostSize_8u_C1MR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_8u_C1MR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.45 NppStatus nppiNormRelL2GetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.46 NppStatus nppiNormRelL2GetBufferHostSize_8u_C3CMR (NppiSize *oSizeROI*, int * *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_8u_C3CMR.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.47 NppStatus nppiNormRelL2GetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.23.2.48 NppStatus nppiNormRelL2GetBufferHostSize_8u_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Computes the device scratch buffer size (in bytes) for nppiNormRel_L2_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24 DotProd

Primitives for computing the dot product of two images.

DotProd

Given two images $pSrc1$ and $pSrc2$ both with width W and height H, the dot product will be computed as

$$DotProd = \sum_{j=0}^{H-1} \sum_{i=0}^{W-1} [pSrc1(j,i) \cdot pSrc2(j,i)]$$

The functions require additional scratch buffer for computations.

- NppStatus nppiDotProd_8u64f_C1R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pDp, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image DotProd.

- NppStatus nppiDotProd_8s64f_C1R (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pDp, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit signed image DotProd.

- NppStatus nppiDotProd_16u64f_C1R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pDp, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit unsigned image DotProd.

- NppStatus nppiDotProd_16s64f_C1R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pDp, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit signed image DotProd.

- NppStatus nppiDotProd_32u64f_C1R (const Npp32u ∗pSrc1, int nSrc1Step, const Npp32u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pDp, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit unsigned image DotProd.

- NppStatus nppiDotProd_32s64f_C1R (const Npp32s ∗pSrc1, int nSrc1Step, const Npp32s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pDp, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit signed image DotProd.

- NppStatus nppiDotProd_32f64f_C1R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pDp, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point image DotProd.

- NppStatus nppiDotProd_8u64f_C3R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[3], Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image DotProd.

- NppStatus nppiDotProd_8s64f_C3R (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[3], Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit signed image DotProd.

- NppStatus nppiDotProd_16u64f_C3R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[3], Npp8u ∗pDeviceBuffer)

Three-channel 16-bit unsigned image DotProd.

- NppStatus nppiDotProd_16s64f_C3R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[3], Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit signed image DotProd.

- NppStatus nppiDotProd_32u64f_C3R (const Npp32u ∗pSrc1, int nSrc1Step, const Npp32u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[3], Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit unsigned image DotProd.

- NppStatus nppiDotProd_32s64f_C3R (const Npp32s ∗pSrc1, int nSrc1Step, const Npp32s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[3], Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit signed image DotProd.

- NppStatus nppiDotProd_32f64f_C3R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[3], Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point image DotProd.

- NppStatus nppiDotProd_8u64f_C4R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[4], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image DotProd.

- NppStatus nppiDotProd_8s64f_C4R (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[4], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit signed image DotProd.

- NppStatus nppiDotProd_16u64f_C4R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[4], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image DotProd.

- NppStatus nppiDotProd_16s64f_C4R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[4], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed image DotProd.

- NppStatus nppiDotProd_32u64f_C4R (const Npp32u ∗pSrc1, int nSrc1Step, const Npp32u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[4], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit unsigned image DotProd.

- NppStatus nppiDotProd_32s64f_C4R (const Npp32s ∗pSrc1, int nSrc1Step, const Npp32s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[4], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit signed image DotProd.

- NppStatus nppiDotProd_32f64f_C4R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[4], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image DotProd.

- NppStatus nppiDotProd_8u64f_AC4R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[3], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image DotProd ignoring alpha channel.

- NppStatus nppiDotProd_8s64f_AC4R (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[3], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit signed image DotProd ignoring alpha channel.

- NppStatus nppiDotProd_16u64f_AC4R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[3], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image DotProd ignoring alpha channel.

- NppStatus nppiDotProd_16s64f_AC4R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[3], Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed image DotProd ignoring alpha channel.

- NppStatus nppiDotProd_32u64f_AC4R (const Npp32u ∗pSrc1, int nSrc1Step, const Npp32u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[3], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit unsigned image DotProd ignoring alpha channel.

- NppStatus nppiDotProd_32s64f_AC4R (const Npp32s ∗pSrc1, int nSrc1Step, const Npp32s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[3], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit signed image DotProd ignoring alpha channel.

- NppStatus nppiDotProd_32f64f_AC4R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f aDp[3], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image DotProd ignoring alpha channel.

DotProdGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the Mean_StdDev primitives.

- NppStatus nppiDotProdGetBufferHostSize_8u64f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_8u64f_C1R.

- NppStatus nppiDotProdGetBufferHostSize_8s64f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_8s64f_C1R.

- NppStatus nppiDotProdGetBufferHostSize_16u64f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_16u64f_C1R.

- NppStatus nppiDotProdGetBufferHostSize_16s64f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_16s64f_C1R.

- NppStatus nppiDotProdGetBufferHostSize_32u64f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_32u64f_C1R.

- NppStatus nppiDotProdGetBufferHostSize_32s64f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_32s64f_C1R.

- NppStatus nppiDotProdGetBufferHostSize_32f64f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_32f64f_C1R.

- NppStatus nppiDotProdGetBufferHostSize_8u64f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_8u64f_C3R.

- NppStatus nppiDotProdGetBufferHostSize_8s64f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_8s64f_C3R.

- NppStatus nppiDotProdGetBufferHostSize_16u64f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_16u64f_C3R.

- NppStatus nppiDotProdGetBufferHostSize_16s64f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_16s64f_C3R.

- NppStatus nppiDotProdGetBufferHostSize_32u64f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_32u64f_C3R.

- NppStatus nppiDotProdGetBufferHostSize_32s64f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_32s64f_C3R.

- NppStatus nppiDotProdGetBufferHostSize_32f64f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_32f64f_C3R.

- NppStatus nppiDotProdGetBufferHostSize_8u64f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_8u64f_C4R.

- NppStatus nppiDotProdGetBufferHostSize_8s64f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_8s64f_C4R.

- NppStatus nppiDotProdGetBufferHostSize_16u64f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_16u64f_C4R.

- NppStatus nppiDotProdGetBufferHostSize_16s64f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_16s64f_C4R.

- NppStatus nppiDotProdGetBufferHostSize_32u64f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_32u64f_C4R.

- NppStatus nppiDotProdGetBufferHostSize_32s64f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_32s64f_C4R.

- NppStatus nppiDotProdGetBufferHostSize_32f64f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_32f64f_C4R.

- NppStatus nppiDotProdGetBufferHostSize_8u64f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_8u64f_AC4R.

- NppStatus nppiDotProdGetBufferHostSize_8s64f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_8s64f_AC4R.

- NppStatus nppiDotProdGetBufferHostSize_16u64f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_16u64f_AC4R.

- NppStatus nppiDotProdGetBufferHostSize_16s64f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_16s64f_AC4R.

- NppStatus nppiDotProdGetBufferHostSize_32u64f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_32u64f_AC4R.

- NppStatus nppiDotProdGetBufferHostSize_32s64f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_32s64f_AC4R.

- NppStatus nppiDotProdGetBufferHostSize_32f64f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiDotProd_32f64f_AC4R.

7.24.1 Detailed Description

Primitives for computing the dot product of two images.

7.24.2 Function Documentation

7.24.2.1 NppStatus nppiDotProd_16s64f_AC4R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image DotProd ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aDp Array that contains the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_16s64f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.2 NppStatus nppiDotProd_16s64f_C1R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pDp*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit signed image DotProd.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDp Pointer to the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_16s64f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.3 NppStatus nppiDotProd_16s64f_C3R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit signed image DotProd.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aDp Array that contains the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_16s64f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.4 NppStatus nppiDotProd_16s64f_C4R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image DotProd.

Parameters:

- ***pSrc1*** Source-Image Pointer.
- ***nSrc1Step*** Source-Image Line Step.
- ***pSrc2*** Source-Image Pointer.
- ***nSrc2Step*** Source-Image Line Step.
- ***oSizeROI*** Region-of-Interest (ROI).
- ***aDp*** Array that contains the computed dot product of the two images.
- ***pDeviceBuffer*** Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_16s64f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.5 NppStatus nppiDotProd_16u64f_AC4R (const Npp16u * *pSrc1*, int *nSrc1Step*, const Npp16u * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[3], Npp8u * *pDeviceBuffer*)

Four-channel 16-bit unsigned image DotProd ignoring alpha channel.

Parameters:

- ***pSrc1*** Source-Image Pointer.
- ***nSrc1Step*** Source-Image Line Step.
- ***pSrc2*** Source-Image Pointer.
- ***nSrc2Step*** Source-Image Line Step.
- ***oSizeROI*** Region-of-Interest (ROI).
- ***aDp*** Array that contains the computed Inf-norm of differences.
- ***pDeviceBuffer*** Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_16u64f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.6 NppStatus nppiDotProd_16u64f_C1R (const Npp16u * *pSrc1*, int *nSrc1Step*, const Npp16u * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pDp*, Npp8u * *pDeviceBuffer*)

One-channel 16-bit unsigned image DotProd.

Parameters:

- ***pSrc1*** Source-Image Pointer.
- ***nSrc1Step*** Source-Image Line Step.
- ***pSrc2*** Source-Image Pointer.
- ***nSrc2Step*** Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDp Pointer to the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_16u64f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.7 NppStatus nppiDotProd_16u64f_C3R (const Npp16u * *pSrc1*, int *nSrc1Step*, const Npp16u * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[3], Npp8u * *pDeviceBuffer*)

Three-channel 16-bit unsigned image DotProd.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aDp Array that contains the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_16u64f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.8 NppStatus nppiDotProd_16u64f_C4R (const Npp16u * *pSrc1*, int *nSrc1Step*, const Npp16u * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[4], Npp8u * *pDeviceBuffer*)

Four-channel 16-bit unsigned image DotProd.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aDp Array that contains the computed Inf-norm of differences.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_16u64f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.9 NppStatus nppiDotProd_32f64f_AC4R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image DotProd ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aDp Array that contains the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_32f64f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.10 NppStatus nppiDotProd_32f64f_C1R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pDp*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit floating point image DotProd.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDp Pointer to the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_32f64f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.11 NppStatus nppiDotProd_32f64f_C3R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point image DotProd.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aDp Array that contains the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_32f64f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.12 NppStatus nppiDotProd_32f64f_C4R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image DotProd.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aDp Array that contains the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_32f64f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.13 NppStatus nppiDotProd_32s64f_AC4R (const Npp32s ∗ *pSrc1*, int *nSrc1Step*, const Npp32s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit signed image DotProd ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aDp Array that contains the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_32s64f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.14 NppStatus nppiDotProd_32s64f_C1R (const Npp32s ∗ *pSrc1*, int *nSrc1Step*, const Npp32s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pDp*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit signed image DotProd.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDp Pointer to the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_32s64f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.15 NppStatus nppiDotProd_32s64f_C3R (const Npp32s ∗ *pSrc1*, int *nSrc1Step*, const Npp32s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit signed image DotProd.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aDp Array that contains the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_32s64f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.16 NppStatus nppiDotProd_32s64f_C4R (const Npp32s ∗ *pSrc1*, int *nSrc1Step*, const Npp32s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit signed image DotProd.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aDp Array that contains the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_32s64f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.17 NppStatus nppiDotProd_32u64f_AC4R (const Npp32u ∗ *pSrc1*, int *nSrc1Step*, const Npp32u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit unsigned image DotProd ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aDp Array that contains the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_32u64f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.18 NppStatus nppiDotProd_32u64f_C1R (const Npp32u ∗ *pSrc1*, int *nSrc1Step*, const Npp32u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pDp*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit unsigned image DotProd.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDp Pointer to the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_32u64f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.19 NppStatus nppiDotProd_32u64f_C3R (const Npp32u ∗ *pSrc1*, int *nSrc1Step*, const Npp32u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit unsigned image DotProd.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aDp Array that contains the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_32u64f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.20 NppStatus nppiDotProd_32u64f_C4R (const Npp32u ∗ *pSrc1*, int *nSrc1Step*, const Npp32u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit unsigned image DotProd.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aDp Array that contains the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_32u64f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.21 NppStatus nppiDotProd_8s64f_AC4R (const Npp8s $*$ *pSrc1*, int *nSrc1Step*, const Npp8s $*$ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[3], Npp8u $*$ *pDeviceBuffer*)

Four-channel 8-bit signed image DotProd ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aDp Array that contains the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_8s64f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.22 NppStatus nppiDotProd_8s64f_C1R (const Npp8s $*$ *pSrc1*, int *nSrc1Step*, const Npp8s $*$ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f $*$ *pDp*, Npp8u $*$ *pDeviceBuffer*)

One-channel 8-bit signed image DotProd.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDp Pointer to the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_8s64f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.23 NppStatus nppiDotProd_8s64f_C3R (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit signed image DotProd.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aDp Array that contains the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_8s64f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.24 NppStatus nppiDotProd_8s64f_C4R (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[4], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit signed image DotProd.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aDp Array that contains the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_8s64f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.25 NppStatus nppiDotProd_8u64f_AC4R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image DotProd ignoring alpha channel.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aDp Array that contains the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_8u64f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.26 NppStatus nppiDotProd_8u64f_C1R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pDp*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit unsigned image DotProd.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pDp Pointer to the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_8u64f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.27 NppStatus nppiDotProd_8u64f_C3R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image DotProd.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aDp Array that contains the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_8u64f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.28 NppStatus nppiDotProd_8u64f_C4R (const Npp8u $*$ *pSrc1*, int *nSrc1Step*, const Npp8u $*$ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f *aDp*[4], Npp8u $*$ *pDeviceBuffer*)

Four-channel 8-bit unsigned image DotProd.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aDp Array that contains the computed dot product of the two images.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiDotProdGetBufferHostSize_8u64f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.24.2.29 NppStatus nppiDotProdGetBufferHostSize_16s64f_AC4R (NppiSize *oSizeROI*, int $*$ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_16s64f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.30 NppStatus nppiDotProdGetBufferHostSize_16s64f_C1R (NppiSize *oSizeROI*, int $*$ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_16s64f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.31 NppStatus nppiDotProdGetBufferHostSize_16s64f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_16s64f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.32 NppStatus nppiDotProdGetBufferHostSize_16s64f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_16s64f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.33 NppStatus nppiDotProdGetBufferHostSize_16u64f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_16u64f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.34 NppStatus nppiDotProdGetBufferHostSize_16u64f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_16u64f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.35 NppStatus nppiDotProdGetBufferHostSize_16u64f_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_16u64f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.36 NppStatus nppiDotProdGetBufferHostSize_16u64f_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_16u64f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.37 NppStatus nppiDotProdGetBufferHostSize_32f64f_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_32f64f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.38 NppStatus nppiDotProdGetBufferHostSize_32f64f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_32f64f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.39 NppStatus nppiDotProdGetBufferHostSize_32f64f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_32f64f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.40 NppStatus nppiDotProdGetBufferHostSize_32f64f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_32f64f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.41 NppStatus nppiDotProdGetBufferHostSize_32s64f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_32s64f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.42 NppStatus nppiDotProdGetBufferHostSize_32s64f_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_32s64f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.43 NppStatus nppiDotProdGetBufferHostSize_32s64f_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_32s64f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.44 NppStatus nppiDotProdGetBufferHostSize_32s64f_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_32s64f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.45 NppStatus nppiDotProdGetBufferHostSize_32u64f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_32u64f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.46 NppStatus nppiDotProdGetBufferHostSize_32u64f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_32u64f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.47 NppStatus nppiDotProdGetBufferHostSize_32u64f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_32u64f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.48 NppStatus nppiDotProdGetBufferHostSize_32u64f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_32u64f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.49 NppStatus nppiDotProdGetBufferHostSize_8s64f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_8s64f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.50 NppStatus nppiDotProdGetBufferHostSize_8s64f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_8s64f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.51 NppStatus nppiDotProdGetBufferHostSize_8s64f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_8s64f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.52 NppStatus nppiDotProdGetBufferHostSize_8s64f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_8s64f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.53 NppStatus nppiDotProdGetBufferHostSize_8u64f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_8u64f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.54 NppStatus nppiDotProdGetBufferHostSize_8u64f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_8u64f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.55 NppStatus nppiDotProdGetBufferHostSize_8u64f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_8u64f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.24.2.56 NppStatus nppiDotProdGetBufferHostSize_8u64f_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiDotProd_8u64f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.25 CountInRange.

Primitives for computing the amount of pixels that fall into the specified intensity range.

CountInRange

The lower bound and the upper bound are inclusive.

The functions require additional scratch buffer for computations.

- NppStatus nppiCountInRange_8u_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, int ∗pCounts, Npp8u nLowerBound, Npp8u nUpperBound, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image CountInRange.

- NppStatus nppiCountInRange_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, int ∗pCounts, Npp32f nLowerBound, Npp32f nUpperBound, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point image CountInRange.

- NppStatus nppiCountInRange_8u_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, int aCounts[3], Npp8u aLowerBound[3], Npp8u aUpperBound[3], Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image CountInRange.

- NppStatus nppiCountInRange_32f_C3R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, int aCounts[3], Npp32f aLowerBound[3], Npp32f aUpperBound[3], Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point image CountInRange.

- NppStatus nppiCountInRange_8u_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, int aCounts[3], Npp8u aLowerBound[3], Npp8u aUpperBound[3], Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image CountInRange ignoring alpha channel.

- NppStatus nppiCountInRange_32f_AC4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, int aCounts[3], Npp32f aLowerBound[3], Npp32f aUpperBound[3], Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image CountInRange ignoring alpha channel.

CountInRangeGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the CountInRange primitives.

- NppStatus nppiCountInRangeGetBufferHostSize_8u_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiCountInRange_8u_C1R.

- NppStatus nppiCountInRangeGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiCountInRange_32f_C1R.

- NppStatus nppiCountInRangeGetBufferHostSize_8u_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

Device scratch buffer size (in bytes) for nppiCountInRange_8u_C3R.

- NppStatus nppiCountInRangeGetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiCountInRange_32f_C3R.

- NppStatus nppiCountInRangeGetBufferHostSize_8u_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiCountInRange_8u_AC4R.

- NppStatus nppiCountInRangeGetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Device scratch buffer size (in bytes) for nppiCountInRange_32f_AC4R.

7.25.1 Detailed Description

Primitives for computing the amount of pixels that fall into the specified intensity range.

7.25.2 Function Documentation

7.25.2.1 NppStatus nppiCountInRange_32f_AC4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, int *aCounts*[3], Npp32f *aLowerBound*[3], Npp32f *aUpperBound*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image CountInRange ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aCounts Array that contains the number of pixels that fall into the specified range for Three-channels.

aLowerBound Fixed size array of the lower bound of the specified range, one per channel.

aUpperBound Fixed size array of the upper bound of the specified range, one per channel.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiCountInRangeGetBufferHostSize_32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_RANGE_ERROR if the lower bound is larger than the upper bound.

7.25.2.2 NppStatus nppiCountInRange_32f_C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, int ∗ *pCounts*, Npp32f *nLowerBound*, Npp32f *nUpperBound*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit floating point image CountInRange.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pCounts Pointer to the number of pixels that fall into the specified range.

nLowerBound Lower bound of the specified range.

nUpperBound Upper bound of the specified range.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiCountInRangeGetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_RANGE_ERROR if the lower bound is larger than the upper bound.

7.25.2.3 NppStatus nppiCountInRange_32f_C3R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, int *aCounts*[3], Npp32f *aLowerBound*[3], Npp32f *aUpperBound*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point image CountInRange.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aCounts Array that contains the number of pixels that fall into the specified range for Three-channels.

aLowerBound Fixed size array of the lower bound of the specified range, one per channel.

aUpperBound Fixed size array of the upper bound of the specified range, one per channel.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiCountInRangeGetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_RANGE_ERROR if the lower bound is larger than the upper bound.

7.25.2.4 NppStatus nppiCountInRange_8u_AC4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, int *aCounts*[3], Npp8u *aLowerBound*[3], Npp8u *aUpperBound*[3], Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image CountInRange ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aCounts Array that contains the number of pixels that fall into the specified range for Three-channels.

aLowerBound Fixed size array of the lower bound of the specified range, one per channel.

aUpperBound Fixed size array of the upper bound of the specified range, one per channel.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiCountInRangeGetBufferHostSize_8u_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_RANGE_ERROR if the lower bound is larger than the upper bound.

7.25.2.5 NppStatus nppiCountInRange_8u_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, int ∗ *pCounts*, Npp8u *nLowerBound*, Npp8u *nUpperBound*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit unsigned image CountInRange.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pCounts Pointer to the number of pixels that fall into the specified range.

nLowerBound Lower bound of the specified range.

nUpperBound Upper bound of the specified range.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiCountInRangeGetBufferHostSize_8u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_RANGE_ERROR if the lower bound is larger than the upper bound.

7.25.2.6 NppStatus nppiCountInRange_8u_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, int *aCounts*[3], Npp8u *aLowerBound*[3], Npp8u *aUpperBound*[3], Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image CountInRange.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

aCounts Array that contains the number of pixels that fall into the specified range for Three-channels.

aLowerBound Fixed size array of the lower bound of the specified range, one per channel.

aUpperBound Fixed size array of the upper bound of the specified range, one per channel.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiCountInRangeGetBufferHostSize_8u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_RANGE_ERROR if the lower bound is larger than the upper bound.

7.25.2.7 NppStatus nppiCountInRangeGetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiCountInRange_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.25.2.8 NppStatus nppiCountInRangeGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiCountInRange_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.25.2.9 NppStatus nppiCountInRangeGetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiCountInRange_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.25.2.10 NppStatus nppiCountInRangeGetBufferHostSize_8u_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiCountInRange_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.25.2.11 NppStatus nppiCountInRangeGetBufferHostSize_8u_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiCountInRange_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.25.2.12 NppStatus nppiCountInRangeGetBufferHostSize_8u_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Device scratch buffer size (in bytes) for nppiCountInRange_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.26 MaxEvery

Primitives for computing the maximal value of the pixel pair from two images.

MaxEvery

The maximum is stored into the second image.

- NppStatus nppiMaxEvery_8u_C1IR (const Npp8u ∗pSrc, int nSrcStep, Npp8u ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  One-channel 8-bit unsigned image MaxEvery.

- NppStatus nppiMaxEvery_16u_C1IR (const Npp16u ∗pSrc, int nSrcStep, Npp16u ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  One-channel 16-bit unsigned image MaxEvery.

- NppStatus nppiMaxEvery_16s_C1IR (const Npp16s ∗pSrc, int nSrcStep, Npp16s ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  One-channel 16-bit signed image MaxEvery.

- NppStatus nppiMaxEvery_32f_C1IR (const Npp32f ∗pSrc, int nSrcStep, Npp32f ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  One-channel 32-bit floating point image MaxEvery.

- NppStatus nppiMaxEvery_8u_C3IR (const Npp8u ∗pSrc, int nSrcStep, Npp8u ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Three-channel 8-bit unsigned image MaxEvery.

- NppStatus nppiMaxEvery_16u_C3IR (const Npp16u ∗pSrc, int nSrcStep, Npp16u ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Three-channel 16-bit unsigned image MaxEvery.

- NppStatus nppiMaxEvery_16s_C3IR (const Npp16s ∗pSrc, int nSrcStep, Npp16s ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Three-channel 16-bit signed image MaxEvery.

- NppStatus nppiMaxEvery_32f_C3IR (const Npp32f ∗pSrc, int nSrcStep, Npp32f ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Three-channel 32-bit floating point image MaxEvery.

- NppStatus nppiMaxEvery_8u_C4IR (const Npp8u ∗pSrc, int nSrcStep, Npp8u ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Four-channel 8-bit unsigned image MaxEvery.

- NppStatus nppiMaxEvery_16u_C4IR (const Npp16u ∗pSrc, int nSrcStep, Npp16u ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Four-channel 16-bit unsigned image MaxEvery.

- NppStatus nppiMaxEvery_16s_C4IR (const Npp16s ∗pSrc, int nSrcStep, Npp16s ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

Four-channel 16-bit signed image MaxEvery.

- NppStatus nppiMaxEvery_32f_C4IR (const Npp32f ∗pSrc, int nSrcStep, Npp32f ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Four-channel 32-bit floating point image MaxEvery.

- NppStatus nppiMaxEvery_8u_AC4IR (const Npp8u ∗pSrc, int nSrcStep, Npp8u ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Four-channel 8-bit unsigned image MaxEvery ignoring alpha channel.

- NppStatus nppiMaxEvery_16u_AC4IR (const Npp16u ∗pSrc, int nSrcStep, Npp16u ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Four-channel 16-bit unsigned image MaxEvery ignoring alpha channel.

- NppStatus nppiMaxEvery_16s_AC4IR (const Npp16s ∗pSrc, int nSrcStep, Npp16s ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Four-channel 16-bit signed image MaxEvery ignoring alpha channel.

- NppStatus nppiMaxEvery_32f_AC4IR (const Npp32f ∗pSrc, int nSrcStep, Npp32f ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Four-channel 32-bit floating point image MaxEvery ignoring alpha channel.

7.26.1 Detailed Description

Primitives for computing the maximal value of the pixel pair from two images.

7.26.2 Function Documentation

7.26.2.1 NppStatus nppiMaxEvery_16s_AC4IR (const Npp16s ∗ *pSrc*, int *nSrcStep*, Npp16s ∗ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Four-channel 16-bit signed image MaxEvery ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.26.2.2 NppStatus nppiMaxEvery_16s_C1IR (const Npp16s * *pSrc*, int *nSrcStep*, Npp16s * *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

One-channel 16-bit signed image MaxEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.26.2.3 NppStatus nppiMaxEvery_16s_C3IR (const Npp16s * *pSrc*, int *nSrcStep*, Npp16s * *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Three-channel 16-bit signed image MaxEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.26.2.4 NppStatus nppiMaxEvery_16s_C4IR (const Npp16s * *pSrc*, int *nSrcStep*, Npp16s * *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Four-channel 16-bit signed image MaxEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.26.2.5 NppStatus nppiMaxEvery_16u_AC4IR (const Npp16u ∗ *pSrc*, int *nSrcStep*, Npp16u ∗ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Four-channel 16-bit unsigned image MaxEvery ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.26.2.6 NppStatus nppiMaxEvery_16u_C1IR (const Npp16u ∗ *pSrc*, int *nSrcStep*, Npp16u ∗ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

One-channel 16-bit unsigned image MaxEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.26.2.7 NppStatus nppiMaxEvery_16u_C3IR (const Npp16u ∗ *pSrc*, int *nSrcStep*, Npp16u ∗ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Three-channel 16-bit unsigned image MaxEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.26.2.8 NppStatus nppiMaxEvery_16u_C4IR (const Npp16u * *pSrc*, int *nSrcStep*, Npp16u * *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Four-channel 16-bit unsigned image MaxEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.26.2.9 NppStatus nppiMaxEvery_32f_AC4IR (const Npp32f * *pSrc*, int *nSrcStep*, Npp32f * *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Four-channel 32-bit floating point image MaxEvery ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.26.2.10 NppStatus nppiMaxEvery_32f_C1IR (const Npp32f * *pSrc*, int *nSrcStep*, Npp32f * *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

One-channel 32-bit floating point image MaxEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.26.2.11 NppStatus nppiMaxEvery_32f_C3IR (const Npp32f $*$ *pSrc*, int *nSrcStep*, Npp32f $*$ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Three-channel 32-bit floating point image MaxEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.26.2.12 NppStatus nppiMaxEvery_32f_C4IR (const Npp32f $*$ *pSrc*, int *nSrcStep*, Npp32f $*$ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Four-channel 32-bit floating point image MaxEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.26.2.13 NppStatus nppiMaxEvery_8u_AC4IR (const Npp8u $*$ *pSrc*, int *nSrcStep*, Npp8u $*$ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Four-channel 8-bit unsigned image MaxEvery ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.26.2.14 NppStatus nppiMaxEvery_8u_C1IR (const Npp8u $*$ *pSrc*, int *nSrcStep*, Npp8u $*$ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

One-channel 8-bit unsigned image MaxEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.26.2.15 NppStatus nppiMaxEvery_8u_C3IR (const Npp8u $*$ *pSrc*, int *nSrcStep*, Npp8u $*$ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Three-channel 8-bit unsigned image MaxEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.26.2.16 NppStatus nppiMaxEvery_8u_C4IR (const Npp8u $*$ *pSrc*, int *nSrcStep*, Npp8u $*$ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Four-channel 8-bit unsigned image MaxEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.27 MinEvery

Primitives for computing the minimal value of the pixel pair from two images.

MinEvery

The minimum is stored into the second image.

- NppStatus nppiMinEvery_8u_C1IR (const Npp8u ∗pSrc, int nSrcStep, Npp8u ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  One-channel 8-bit unsigned image MinEvery.

- NppStatus nppiMinEvery_16u_C1IR (const Npp16u ∗pSrc, int nSrcStep, Npp16u ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  One-channel 16-bit unsigned image MinEvery.

- NppStatus nppiMinEvery_16s_C1IR (const Npp16s ∗pSrc, int nSrcStep, Npp16s ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  One-channel 16-bit signed image MinEvery.

- NppStatus nppiMinEvery_32f_C1IR (const Npp32f ∗pSrc, int nSrcStep, Npp32f ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  One-channel 32-bit floating point image MinEvery.

- NppStatus nppiMinEvery_8u_C3IR (const Npp8u ∗pSrc, int nSrcStep, Npp8u ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Three-channel 8-bit unsigned image MinEvery.

- NppStatus nppiMinEvery_16u_C3IR (const Npp16u ∗pSrc, int nSrcStep, Npp16u ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Three-channel 16-bit unsigned image MinEvery.

- NppStatus nppiMinEvery_16s_C3IR (const Npp16s ∗pSrc, int nSrcStep, Npp16s ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Three-channel 16-bit signed image MinEvery.

- NppStatus nppiMinEvery_32f_C3IR (const Npp32f ∗pSrc, int nSrcStep, Npp32f ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Three-channel 32-bit floating point image MinEvery.

- NppStatus nppiMinEvery_8u_C4IR (const Npp8u ∗pSrc, int nSrcStep, Npp8u ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Four-channel 8-bit unsigned image MinEvery.

- NppStatus nppiMinEvery_16u_C4IR (const Npp16u ∗pSrc, int nSrcStep, Npp16u ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Four-channel 16-bit unsigned image MinEvery.

- NppStatus nppiMinEvery_16s_C4IR (const Npp16s ∗pSrc, int nSrcStep, Npp16s ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

Four-channel 16-bit signed image MinEvery.

- NppStatus nppiMinEvery_32f_C4IR (const Npp32f ∗pSrc, int nSrcStep, Npp32f ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Four-channel 32-bit floating point image MinEvery.

- NppStatus nppiMinEvery_8u_AC4IR (const Npp8u ∗pSrc, int nSrcStep, Npp8u ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Four-channel 8-bit unsigned image MinEvery ignoring alpha channel.

- NppStatus nppiMinEvery_16u_AC4IR (const Npp16u ∗pSrc, int nSrcStep, Npp16u ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Four-channel 16-bit unsigned image MinEvery ignoring alpha channel.

- NppStatus nppiMinEvery_16s_AC4IR (const Npp16s ∗pSrc, int nSrcStep, Npp16s ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Four-channel 16-bit signed image MinEvery ignoring alpha channel.

- NppStatus nppiMinEvery_32f_AC4IR (const Npp32f ∗pSrc, int nSrcStep, Npp32f ∗pSrcDst, int nSrcDstStep, NppiSize oSizeROI)

  Four-channel 32-bit floating point image MinEvery ignoring alpha channel.

7.27.1 Detailed Description

Primitives for computing the minimal value of the pixel pair from two images.

7.27.2 Function Documentation

7.27.2.1 NppStatus nppiMinEvery_16s_AC4IR (const Npp16s ∗ *pSrc*, int *nSrcStep*, Npp16s ∗ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Four-channel 16-bit signed image MinEvery ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.27.2.2 NppStatus nppiMinEvery_16s_C1IR (const Npp16s ∗ *pSrc*, int *nSrcStep*, Npp16s ∗ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

One-channel 16-bit signed image MinEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.27.2.3 NppStatus nppiMinEvery_16s_C3IR (const Npp16s ∗ *pSrc*, int *nSrcStep*, Npp16s ∗ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Three-channel 16-bit signed image MinEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.27.2.4 NppStatus nppiMinEvery_16s_C4IR (const Npp16s ∗ *pSrc*, int *nSrcStep*, Npp16s ∗ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Four-channel 16-bit signed image MinEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.27.2.5 NppStatus nppiMinEvery_16u_AC4IR (const Npp16u ∗ *pSrc*, int *nSrcStep*, Npp16u ∗ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Four-channel 16-bit unsigned image MinEvery ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.27.2.6 NppStatus nppiMinEvery_16u_C1IR (const Npp16u ∗ *pSrc*, int *nSrcStep*, Npp16u ∗ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

One-channel 16-bit unsigned image MinEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.27.2.7 NppStatus nppiMinEvery_16u_C3IR (const Npp16u ∗ *pSrc*, int *nSrcStep*, Npp16u ∗ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Three-channel 16-bit unsigned image MinEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.27.2.8 NppStatus nppiMinEvery_16u_C4IR (const Npp16u $*$ *pSrc*, int *nSrcStep*, Npp16u $*$ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Four-channel 16-bit unsigned image MinEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.27.2.9 NppStatus nppiMinEvery_32f_AC4IR (const Npp32f $*$ *pSrc*, int *nSrcStep*, Npp32f $*$ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Four-channel 32-bit floating point image MinEvery ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.27.2.10 NppStatus nppiMinEvery_32f_C1IR (const Npp32f $*$ *pSrc*, int *nSrcStep*, Npp32f $*$ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

One-channel 32-bit floating point image MinEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.27.2.11 NppStatus nppiMinEvery_32f_C3IR (const Npp32f ∗ *pSrc*, int *nSrcStep*, Npp32f ∗ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Three-channel 32-bit floating point image MinEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.27.2.12 NppStatus nppiMinEvery_32f_C4IR (const Npp32f ∗ *pSrc*, int *nSrcStep*, Npp32f ∗ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Four-channel 32-bit floating point image MinEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.27.2.13 NppStatus nppiMinEvery_8u_AC4IR (const Npp8u ∗ *pSrc*, int *nSrcStep*, Npp8u ∗ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Four-channel 8-bit unsigned image MinEvery ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.27.2.14 NppStatus nppiMinEvery_8u_C1IR (const Npp8u ∗ *pSrc*, int *nSrcStep*, Npp8u ∗ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

One-channel 8-bit unsigned image MinEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.27.2.15 NppStatus nppiMinEvery_8u_C3IR (const Npp8u ∗ *pSrc*, int *nSrcStep*, Npp8u ∗ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Three-channel 8-bit unsigned image MinEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.27.2.16 NppStatus nppiMinEvery_8u_C4IR (const Npp8u ∗ *pSrc*, int *nSrcStep*, Npp8u ∗ *pSrcDst*, int *nSrcDstStep*, NppiSize *oSizeROI*)

Four-channel 8-bit unsigned image MinEvery.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSrcDst In-Place Image Pointer.

nSrcDstStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.28 Integral

Primitives for computing the integral image of a given image.

Integral

Given an input image $pSrc$ and the specified value $nVal$, the pixel value of the integral image $pDst$ at coordinate (i, j) will be computed as

$$pDst(j,i) = nVal + \sum_{l=0}^{j-1}\sum_{k=0}^{i-1} pSrc(l,k)$$

If the size of the input image is $W \times H$, the size of the integral image will be $(W + 1) \times (H + 1)$.

- NppStatus nppiIntegral_8u32s_C1R (const Npp8u *pSrc, int nSrcStep, Npp32s *pDst, int nDstStep, NppiSize oROI, Npp32s nVal)

  One-channel 8-bit unsigned image Integral with 32-bit signed output.

- NppStatus nppiIntegral_8u32f_C1R (const Npp8u *pSrc, int nSrcStep, Npp32f *pDst, int nDstStep, NppiSize oROI, Npp32f nVal)

  One-channel 8-bit unsigned image Integral with 32-bit floating point output.

7.28.1 Detailed Description

Primitives for computing the integral image of a given image.

7.28.2 Function Documentation

7.28.2.1 NppStatus nppiIntegral_8u32f_C1R (const Npp8u * *pSrc*, int *nSrcStep*, Npp32f * *pDst*, int *nDstStep*, NppiSize *oROI*, Npp32f *nVal*)

One-channel 8-bit unsigned image Integral with 32-bit floating point output.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nVal The value to add to pDst image pixels

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.28.2.2 NppStatus nppiIntegral_8u32s_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, Npp32s ∗ *pDst*, int *nDstStep*, NppiSize *oROI*, Npp32s *nVal*)

One-channel 8-bit unsigned image Integral with 32-bit signed output.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nVal The value to add to pDst image pixels

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.29 SqrIntegral

Primitives for computing both the integral and the squared integral images of a given image.

SqrIntegral

Given an input image $pSrc$ and the specified value $nVal$, the pixel value of the integral image $pDst$ at coordinate (i, j) will be computed as

$$pDst(j,i) = nVal + \sum_{l=0}^{j-1}\sum_{k=0}^{i-1} pSrc(l,k)$$

Given an input image $pSrc$ and the specified value $nValSqr$, the pixel value of the squared integral image $pSqr$ at coordinate (i, j) will be computed as

$$pSqr(j,i) = nValSqr + \sum_{l=0}^{j-1}\sum_{k=0}^{i-1} pSrc(l,k)^2$$

If the size of the input image is $W \times H$, the size of the squared integral image will be $(W+1) \times (H+1)$.

- NppStatus nppiSqrIntegral_8u32s_C1R (const Npp8u ∗pSrc, int nSrcStep, Npp32s ∗pDst, int nDstStep, Npp32s ∗pSqr, int nSqrStep, NppiSize oSrcROI, Npp32s nVal, Npp32s nValSqr)

  One-channel 8-bit unsigned image SqrIntegral.

- NppStatus nppiSqrIntegral_8u32s64f_C1R (const Npp8u ∗pSrc, int nSrcStep, Npp32s ∗pDst, int nDstStep, Npp64f ∗pSqr, int nSqrStep, NppiSize oSrcROI, Npp32s nVal, Npp64f nValSqr)

  One-channel 8-bit unsigned image SqrIntegral.

- NppStatus nppiSqrIntegral_8u32f64f_C1R (const Npp8u ∗pSrc, int nSrcStep, Npp32f ∗pDst, int nDstStep, Npp64f ∗pSqr, int nSqrStep, NppiSize oSrcROI, Npp32f nVal, Npp64f nValSqr)

  One-channel 8-bit unsigned image SqrIntegral.

7.29.1 Detailed Description

Primitives for computing both the integral and the squared integral images of a given image.

7.29.2 Function Documentation

7.29.2.1 NppStatus nppiSqrIntegral_8u32f64f_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, Npp32f ∗ *pDst*, int *nDstStep*, Npp64f ∗ *pSqr*, int *nSqrStep*, NppiSize *oSrcROI*, Npp32f *nVal*, Npp64f *nValSqr*)

One-channel 8-bit unsigned image SqrIntegral.

Destination integral image is 32-bit floating point. Destination square integral image is 64-bit double floating point.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pSqr Destination-Image Pointer.

nSqrStep Destination-Image Line Step.

oSrcROI Region-of-Interest (ROI).

nVal The value to add to pDst image pixels

nValSqr The value to add to pSqr image pixels

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.29.2.2 NppStatus nppiSqrIntegral_8u32s64f_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, Npp32s ∗ *pDst*, int *nDstStep*, Npp64f ∗ *pSqr*, int *nSqrStep*, NppiSize *oSrcROI*, Npp32s *nVal*, Npp64f *nValSqr*)

One-channel 8-bit unsigned image SqrIntegral.

Destination integral image is 32-bit signed int. Destination square integral image is 64-bit double floating point.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pSqr Destination-Image Pointer.

nSqrStep Destination-Image Line Step.

oSrcROI Region-of-Interest (ROI).

nVal The value to add to pDst image pixels

nValSqr The value to add to pSqr image pixels

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.29.2.3 NppStatus nppiSqrIntegral_8u32s_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, Npp32s ∗ *pDst*, int *nDstStep*, Npp32s ∗ *pSqr*, int *nSqrStep*, NppiSize *oSrcROI*, Npp32s *nVal*, Npp32s *nValSqr*)

One-channel 8-bit unsigned image SqrIntegral.

Destination integral image and square integral image are 32-bit signed int.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pSqr Destination-Image Pointer.

nSqrStep Destination-Image Line Step.

oSrcROI Region-of-Interest (ROI).

nVal The value to add to pDst image pixels

nValSqr The value to add to pSqr image pixels

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.30 RectStdDev

Primitives for computing the standard deviation of the integral images.

RectStdDev

- NppStatus nppiRectStdDev_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, const Npp64f ∗pSqr, int nSqrStep, Npp32f ∗pDst, int nDstStep, NppiSize oSizeROI, NppiRect oRect)

  One-channel 32-bit floating point image RectStdDev.

- NppStatus nppiRectStdDev_32s_C1RSfs (const Npp32s ∗pSrc, int nSrcStep, const Npp32s ∗pSqr, int nSqrStep, Npp32s ∗pDst, int nDstStep, NppiSize oSizeROI, NppiRect oRect, int nScaleFactor)

  One-channel 32-bit signed image RectStdDev, scaled by $2^{(} - nScaleFactor)$*.*

- NppStatus nppiRectStdDev_32s32f_C1R (const Npp32s ∗pSrc, int nSrcStep, const Npp64f ∗pSqr, int nSqrStep, Npp32f ∗pDst, int nDstStep, NppiSize oSizeROI, NppiRect oRect)

  One-channel 32-bit signed image RectStdDev.

7.30.1 Detailed Description

Primitives for computing the standard deviation of the integral images.

The function computes the standard deviation of the pixel in the rectangular window with the integral image $pSrc$ and the squared integral image $pSqr$, which can be obtained by calling Integral and SqrIntegral.

The standard deviation of the pixel (j,i) can be computed using the formula:

$$pDst(j,i) = \sqrt{max(0, \frac{\sum(SqrIntegral)\cdot N - (\sum(Integral))^2}{N^2})}$$

where $\sum(SqrIntegral) = pSqr[j+oRect.y+oRect.height, i+oRect.x+oRect.width] - pSqr[j+oRect.y, i+oRect.x+oRect.width] - pSqr[j+oRect.y+oRect.height, i+oRect.x] + pSqr[j+oRect.y, i+oRect.x]$, $\sum(Integral) = pSrc[j+oRect.y+oRect.height, i+oRect.x+oRect.width] - pSrc[j+oRect.y, i+oRect.x+oRect.width] - pSrc[j+oRect.y+oRect.height, i+oRect.x] + pSrc[j+oRect.y, i+oRect.x]$, $N = oRect.width \cdot oRect.height$.

The size of the $pSrc$ and $pSqr$ should be $(oSizeROI.width + oRect.x + oRect.width, oSizeROI.height + oRect.y + oRect.height)$.

7.30.2 Function Documentation

7.30.2.1 NppStatus nppiRectStdDev_32f_C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, const Npp64f ∗ *pSqr*, int *nSqrStep*, Npp32f ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, NppiRect *oRect*)

One-channel 32-bit floating point image RectStdDev.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSqr Destination-Image Pointer.

nSqrStep Destination-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oRect rectangular window

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.30.2.2 NppStatus nppiRectStdDev_32s32f_C1R (const Npp32s $*$ *pSrc*, int *nSrcStep*, const Npp64f $*$ *pSqr*, int *nSqrStep*, Npp32f $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, NppiRect *oRect*)

One-channel 32-bit signed image RectStdDev.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSqr Destination-Image Pointer.

nSqrStep Destination-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oRect rectangular window

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.30.2.3 NppStatus nppiRectStdDev_32s_C1RSfs (const Npp32s $*$ *pSrc*, int *nSrcStep*, const Npp32s $*$ *pSqr*, int *nSqrStep*, Npp32s $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, NppiRect *oRect*, int *nScaleFactor*)

One-channel 32-bit signed image RectStdDev, scaled by $2^(- nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pSqr Destination-Image Pointer.

nSqrStep Destination-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oRect rectangular window

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.31 HistogramEven

Primitives for computing the histogram of an image with evenly distributed bins.

HistogramEven

The $nLowerLevel$ (inclusive) and $nUpperLevel$ (exclusive) define the boundaries of the range, which are evenly segmented into $nLevel - 1$ bins.

The computed histogram is stored in $pHist$. The levels are calculated by another primitive nppiEvenLevelsHost_32s and are stored in a host pointer $hpLevels$. The number of levels is also $nLevel - 1$. The histogram $pHist[k]$ is defined as the total number of pixels that fall into the range: $hpLevels[k] <= pSrc(j, i) < hpLevels[k + 1]$. The functions require additional scratch buffer for computations.

- NppStatus nppiEvenLevelsHost_32s (Npp32s ∗hpLevels, int nLevels, Npp32s nLowerLevel, Npp32s nUpperLevel)

  Compute levels with even distribution.

- NppStatus nppiHistogramEven_8u_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist, int nLevels, Npp32s nLowerLevel, Npp32s nUpperLevel, Npp8u ∗pBuffer)

  One-channel 8-bit unsigned HistogramEven.

- NppStatus nppiHistogramEven_8u_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[3], int nLevels[3], Npp32s nLowerLevel[3], Npp32s nUpperLevel[3], Npp8u ∗pBuffer)

  Three-channel 8-bit unsigned HistogramEven.

- NppStatus nppiHistogramEven_8u_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[4], int nLevels[4], Npp32s nLowerLevel[4], Npp32s nUpperLevel[4], Npp8u ∗pBuffer)

  Four-channel 8-bit unsigned HistogramEven.

- NppStatus nppiHistogramEven_8u_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[3], int nLevels[3], Npp32s nLowerLevel[3], Npp32s nUpperLevel[3], Npp8u ∗pBuffer)

  Four-channel 8-bit unsigned HistogramEven ignoring alpha channel.

- NppStatus nppiHistogramEven_16u_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist, int nLevels, Npp32s nLowerLevel, Npp32s nUpperLevel, Npp8u ∗pBuffer)

  One-channel 16-bit unsigned HistogramEven.

- NppStatus nppiHistogramEven_16u_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[3], int nLevels[3], Npp32s nLowerLevel[3], Npp32s nUpperLevel[3], Npp8u ∗pBuffer)

  Three-channel 16-bit unsigned HistogramEven.

- NppStatus nppiHistogramEven_16u_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[4], int nLevels[4], Npp32s nLowerLevel[4], Npp32s nUpperLevel[4], Npp8u ∗pBuffer)

  Four-channel 16-bit unsigned HistogramEven.

- NppStatus nppiHistogramEven_16u_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[3], int nLevels[3], Npp32s nLowerLevel[3], Npp32s nUpperLevel[3], Npp8u ∗pBuffer)

  Four-channel 16-bit unsigned HistogramEven ignoring alpha channel.

- NppStatus nppiHistogramEven_16s_C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist, int nLevels, Npp32s nLowerLevel, Npp32s nUpperLevel, Npp8u ∗pBuffer)

  One-channel 16-bit signed HistogramEven.

- NppStatus nppiHistogramEven_16s_C3R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[3], int nLevels[3], Npp32s nLowerLevel[3], Npp32s nUpperLevel[3], Npp8u ∗pBuffer)

  Three-channel 16-bit signed HistogramEven.

- NppStatus nppiHistogramEven_16s_C4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[4], int nLevels[4], Npp32s nLowerLevel[4], Npp32s nUpperLevel[4], Npp8u ∗pBuffer)

  Four-channel 16-bit signed HistogramEven.

- NppStatus nppiHistogramEven_16s_AC4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[3], int nLevels[3], Npp32s nLowerLevel[3], Npp32s nUpperLevel[3], Npp8u ∗pBuffer)

  Four-channel 16-bit signed HistogramEven ignoring alpha channel.

HistogramEvenGetBufferSize

Companion primitives for computing the device buffer size (in bytes) required by the HistogramEven primitives.

- NppStatus nppiHistogramEvenGetBufferSize_8u_C1R (NppiSize oSizeROI, int nLevels, int ∗hpBufferSize)

  Buffer size for nppiHistogramEven_8u_C1R.

- NppStatus nppiHistogramEvenGetBufferSize_8u_C3R (NppiSize oSizeROI, int nLevels[3], int ∗hpBufferSize)

  Buffer size for nppiHistogramEven_8u_C3R.

- NppStatus nppiHistogramEvenGetBufferSize_8u_C4R (NppiSize oSizeROI, int nLevels[4], int ∗hpBufferSize)

  Buffer size for nppiHistogramEven_8u_C4R.

- NppStatus nppiHistogramEvenGetBufferSize_8u_AC4R (NppiSize oSizeROI, int nLevels[3], int ∗hpBufferSize)

  Buffer size for nppiHistogramEven_8u_AC4R.

- NppStatus nppiHistogramEvenGetBufferSize_16u_C1R (NppiSize oSizeROI, int nLevels, int ∗hpBufferSize)

  Buffer size for nppiHistogramEven_16u_C1R.

- NppStatus nppiHistogramEvenGetBufferSize_16u_C3R (NppiSize oSizeROI, int nLevels[3], int ∗hpBufferSize)

  Buffer size for nppiHistogramEven_16u_C3R.

- NppStatus nppiHistogramEvenGetBufferSize_16u_C4R (NppiSize oSizeROI, int nLevels[4], int ∗hpBufferSize)

  Buffer size for nppiHistogramEven_16u_C4R.

- NppStatus nppiHistogramEvenGetBufferSize_16u_AC4R (NppiSize oSizeROI, int nLevels[3], int ∗hpBufferSize)

  Buffer size for nppiHistogramEven_16u_AC4R.

- NppStatus nppiHistogramEvenGetBufferSize_16s_C1R (NppiSize oSizeROI, int nLevels, int ∗hpBufferSize)

  Buffer size for nppiHistogramEven_16s_C1R.

- NppStatus nppiHistogramEvenGetBufferSize_16s_C3R (NppiSize oSizeROI, int nLevels[3], int ∗hpBufferSize)

  Buffer size for nppiHistogramEven_16s_C3R.

- NppStatus nppiHistogramEvenGetBufferSize_16s_C4R (NppiSize oSizeROI, int nLevels[4], int ∗hpBufferSize)

  Buffer size for nppiHistogramEven_16s_C4R.

- NppStatus nppiHistogramEvenGetBufferSize_16s_AC4R (NppiSize oSizeROI, int nLevels[3], int ∗hpBufferSize)

  Buffer size for nppiHistogramEven_16s_AC4R.

7.31.1 Detailed Description

Primitives for computing the histogram of an image with evenly distributed bins.

7.31.2 Function Documentation

7.31.2.1 NppStatus nppiEvenLevelsHost_32s (Npp32s ∗ *hpLevels*, int *nLevels*, Npp32s *nLowerLevel*, Npp32s *nUpperLevel*)

Compute levels with even distribution.

Parameters:

hpLevels A host pointer to array which receives the levels being computed. The array needs to be of size nLevels.

nLevels The number of levels being computed. nLevels must be at least 2.

nLowerLevel Lower boundary value of the lowest level.

nUpperLevel Upper boundary value of the greatest level.

Returns:

image_data_error_codes, or NPP_HISTO_NUMBER_OF_LEVELS_ERROR if an invalid nLevels is specified.

7.31.2.2 NppStatus nppiHistogramEven_16s_AC4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*[3], int *nLevels*[3], Npp32s *nLowerLevel*[3], Npp32s *nUpperLevel*[3], Npp8u ∗ *pBuffer*)

Four-channel 16-bit signed HistogramEven ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Array of pointers which are receiving computed histograms per color channel. Array pointed by pHist[i] be of size nLevels[i]-1.

nLevels Array containing number of levels per color channel.

nLowerLevel Array containing lower-level of lowest bin per color channel.

nUpperLevel Array containing upper-level of highest bin per color channel.

pBuffer Pointer to appropriately sized (nppiHistogramEvenGetBufferSize_16s_AC4R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.31.2.3 NppStatus nppiHistogramEven_16s_C1R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*, int *nLevels*, Npp32s *nLowerLevel*, Npp32s *nUpperLevel*, Npp8u ∗ *pBuffer*)

One-channel 16-bit signed HistogramEven.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Pointer to array that receives the computed histogram. The array must be of size nLevels-1.

nLevels Number of levels.

nLowerLevel Lower boundary of lowest level bin.

nUpperLevel Upper boundary of highest level bin.

pBuffer Pointer to appropriately sized (nppiHistogramEvenGetBufferSize_16s_C1R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.31.2.4 NppStatus nppiHistogramEven_16s_C3R (const Npp16s * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s * *pHist*[3], int *nLevels*[3], Npp32s *nLowerLevel*[3], Npp32s *nUpperLevel*[3], Npp8u * *pBuffer*)

Three-channel 16-bit signed HistogramEven.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Array of pointers which are receiving computed histograms per color channel. Array pointed by pHist[i] be of size nLevels[i]-1.

nLevels Array containing number of levels per color channel.

nLowerLevel Array containing lower-level of lowest bin per color channel.

nUpperLevel Array containing upper-level of highest bin per color channel.

pBuffer Pointer to appropriately sized (nppiHistogramEvenGetBufferSize_16s_C3R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.31.2.5 NppStatus nppiHistogramEven_16s_C4R (const Npp16s * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s * *pHist*[4], int *nLevels*[4], Npp32s *nLowerLevel*[4], Npp32s *nUpperLevel*[4], Npp8u * *pBuffer*)

Four-channel 16-bit signed HistogramEven.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Array of pointers which are receiving computed histograms per color channel. Array pointed by pHist[i] be of size nLevels[i]-1.

nLevels Array containing number of levels per color channel.

nLowerLevel Array containing lower-level of lowest bin per color channel.

nUpperLevel Array containing upper-level of highest bin per color channel.

pBuffer Pointer to appropriately sized (nppiHistogramEvenGetBufferSize_16s_C4R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.31.2.6 NppStatus nppiHistogramEven_16u_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*[3], int *nLevels*[3], Npp32s *nLowerLevel*[3], Npp32s *nUpperLevel*[3], Npp8u ∗ *pBuffer*)

Four-channel 16-bit unsigned HistogramEven ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Array of pointers which are receiving computed histograms per color channel. Array pointed by pHist[i] be of size nLevels[i]-1.

nLevels Array containing number of levels per color channel.

nLowerLevel Array containing lower-level of lowest bin per color channel.

nUpperLevel Array containing upper-level of highest bin per color channel.

pBuffer Pointer to appropriately sized (nppiHistogramEvenGetBufferSize_16u_AC4R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.31.2.7 NppStatus nppiHistogramEven_16u_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*, int *nLevels*, Npp32s *nLowerLevel*, Npp32s *nUpperLevel*, Npp8u ∗ *pBuffer*)

One-channel 16-bit unsigned HistogramEven.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Pointer to array that receives the computed histogram. The array must be of size nLevels-1.

nLevels Number of levels.

nLowerLevel Lower boundary of lowest level bin.

nUpperLevel Upper boundary of highest level bin.

pBuffer Pointer to appropriately sized (nppiHistogramEvenGetBufferSize_16u_C1R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.31.2.8 NppStatus nppiHistogramEven_16u_C3R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*[3], int *nLevels*[3], Npp32s *nLowerLevel*[3], Npp32s *nUpperLevel*[3], Npp8u ∗ *pBuffer*)

Three-channel 16-bit unsigned HistogramEven.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Array of pointers which are receiving computed histograms per color channel. Array pointed by pHist[i] be of size nLevels[i]-1.

nLevels Array containing number of levels per color channel.

nLowerLevel Array containing lower-level of lowest bin per color channel.

nUpperLevel Array containing upper-level of highest bin per color channel.

pBuffer Pointer to appropriately sized (nppiHistogramEvenGetBufferSize_16u_C3R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.31.2.9 NppStatus nppiHistogramEven_16u_C4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*[4], int *nLevels*[4], Npp32s *nLowerLevel*[4], Npp32s *nUpperLevel*[4], Npp8u ∗ *pBuffer*)

Four-channel 16-bit unsigned HistogramEven.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Array of pointers which are receiving computed histograms per color channel. Array pointed by pHist[i] be of size nLevels[i]-1.

nLevels Array containing number of levels per color channel.

nLowerLevel Array containing lower-level of lowest bin per color channel.

nUpperLevel Array containing upper-level of highest bin per color channel.

pBuffer Pointer to appropriately sized (nppiHistogramEvenGetBufferSize_16u_C4R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.31.2.10 NppStatus nppiHistogramEven_8u_AC4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*[3], int *nLevels*[3], Npp32s *nLowerLevel*[3], Npp32s *nUpperLevel*[3], Npp8u ∗ *pBuffer*)

Four-channel 8-bit unsigned HistogramEven ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Array of pointers which are receiving computed histograms per color channel. Array pointed by pHist[i] be of size nLevels[i]-1.

nLevels Array containing number of levels per color channel.

nLowerLevel Array containing lower-level of lowest bin per color channel.

nUpperLevel Array containing upper-level of highest bin per color channel.

pBuffer Pointer to appropriately sized (nppiHistogramEvenGetBufferSize_8u_AC4R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.31.2.11 NppStatus nppiHistogramEven_8u_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*, int *nLevels*, Npp32s *nLowerLevel*, Npp32s *nUpperLevel*, Npp8u ∗ *pBuffer*)

One-channel 8-bit unsigned HistogramEven.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Pointer to array that receives the computed histogram. The array must be of size nLevels-1.

nLevels Number of levels.

nLowerLevel Lower boundary of lowest level bin.

nUpperLevel Upper boundary of highest level bin.

pBuffer Pointer to appropriately sized (nppiHistogramEvenGetBufferSize_8u_C1R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.31.2.12 NppStatus nppiHistogramEven_8u_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*[3], int *nLevels*[3], Npp32s *nLowerLevel*[3], Npp32s *nUpperLevel*[3], Npp8u ∗ *pBuffer*)

Three-channel 8-bit unsigned HistogramEven.

Parameters:

- ***pSrc*** Source-Image Pointer.
- ***nSrcStep*** Source-Image Line Step.
- ***oSizeROI*** Region-of-Interest (ROI).
- ***pHist*** Array of pointers which are receiving computed histograms per color channel. Array pointed by pHist[i] be of size nLevels[i]-1.
- ***nLevels*** Array containing number of levels per color channel.
- ***nLowerLevel*** Array containing lower-level of lowest bin per color channel.
- ***nUpperLevel*** Array containing upper-level of highest bin per color channel.
- ***pBuffer*** Pointer to appropriately sized (nppiHistogramEvenGetBufferSize_8u_C3R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.31.2.13 NppStatus nppiHistogramEven_8u_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*[4], int *nLevels*[4], Npp32s *nLowerLevel*[4], Npp32s *nUpperLevel*[4], Npp8u ∗ *pBuffer*)

Four-channel 8-bit unsigned HistogramEven.

Parameters:

- ***pSrc*** Source-Image Pointer.
- ***nSrcStep*** Source-Image Line Step.
- ***oSizeROI*** Region-of-Interest (ROI).
- ***pHist*** Array of pointers which are receiving computed histograms per color channel. Array pointed by pHist[i] be of size nLevels[i]-1.
- ***nLevels*** Array containing number of levels per color channel.
- ***nLowerLevel*** Array containing lower-level of lowest bin per color channel.
- ***nUpperLevel*** Array containing upper-level of highest bin per color channel.
- ***pBuffer*** Pointer to appropriately sized (nppiHistogramEvenGetBufferSize_8u_C4R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.31.2.14 NppStatus nppiHistogramEvenGetBufferSize_16s_AC4R (NppiSize *oSizeROI*, int *nLevels*[3], int ∗ *hpBufferSize*)

Buffer size for nppiHistogramEven_16s_AC4R.

Parameters:

- ***oSizeROI*** Region-of-Interest (ROI).
- ***nLevels*** Array containing number of levels per color channel.
- ***hpBufferSize*** Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.31.2.15 NppStatus nppiHistogramEvenGetBufferSize_16s_C1R (NppiSize *oSizeROI*, int *nLevels*, int ∗ *hpBufferSize*)

Buffer size for nppiHistogramEven_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Number of levels in the histogram.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.31.2.16 NppStatus nppiHistogramEvenGetBufferSize_16s_C3R (NppiSize *oSizeROI*, int *nLevels*[3], int ∗ *hpBufferSize*)

Buffer size for nppiHistogramEven_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Array containing number of levels per color channel.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.31.2.17 NppStatus nppiHistogramEvenGetBufferSize_16s_C4R (NppiSize *oSizeROI*, int *nLevels*[4], int ∗ *hpBufferSize*)

Buffer size for nppiHistogramEven_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Array containing number of levels per color channel.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.31.2.18 NppStatus nppiHistogramEvenGetBufferSize_16u_AC4R (NppiSize *oSizeROI*, int *nLevels*[3], int ∗ *hpBufferSize*)

Buffer size for nppiHistogramEven_16u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Array containing number of levels per color channel.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.31.2.19 NppStatus nppiHistogramEvenGetBufferSize_16u_C1R (NppiSize *oSizeROI*, int *nLevels*, int ∗ *hpBufferSize*)

Buffer size for nppiHistogramEven_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Number of levels in the histogram.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.31.2.20 NppStatus nppiHistogramEvenGetBufferSize_16u_C3R (NppiSize *oSizeROI*, int *nLevels*[3], int ∗ *hpBufferSize*)

Buffer size for nppiHistogramEven_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Array containing number of levels per color channel.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.31.2.21 NppStatus nppiHistogramEvenGetBufferSize_16u_C4R (NppiSize *oSizeROI*, int *nLevels*[4], int ∗ *hpBufferSize*)

Buffer size for nppiHistogramEven_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Array containing number of levels per color channel.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.31.2.22 NppStatus nppiHistogramEvenGetBufferSize_8u_AC4R (NppiSize *oSizeROI*, int *nLevels*[3], int ∗ *hpBufferSize*)

Buffer size for nppiHistogramEven_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Array containing number of levels per color channel.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.31.2.23 NppStatus nppiHistogramEvenGetBufferSize_8u_C1R (NppiSize *oSizeROI*, int *nLevels*, int ∗ *hpBufferSize*)

Buffer size for nppiHistogramEven_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Number of levels in the histogram.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.31.2.24 NppStatus nppiHistogramEvenGetBufferSize_8u_C3R (NppiSize *oSizeROI*, int *nLevels*[3], int ∗ *hpBufferSize*)

Buffer size for nppiHistogramEven_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Number of levels in the histogram.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.31.2.25 NppStatus nppiHistogramEvenGetBufferSize_8u_C4R (NppiSize *oSizeROI*, int *nLevels*[4], int ∗ *hpBufferSize*)

Buffer size for nppiHistogramEven_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Array containing number of levels per color channel.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.32 HistogramRange

Primitives for computing the histogram of an image within specified ranges.

HistogramEven

The histogram is computed according to the ranges provided in $pLevels$.

The histogram $pHist[k]$ is defined as the total number of pixels that fall into the range: $pLevels[k] <= pSrc(j, i) < pLevels[k + 1]$. The number of the histogram bins is $nLevel - 1$. The functions require additional scratch buffer for computations.

- NppStatus nppiHistogramRange_8u_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist, const Npp32s ∗pLevels, int nLevels, Npp8u ∗pBuffer)

  One-channel 8-bit unsigned HistogramRange.

- NppStatus nppiHistogramRange_8u_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[3], const Npp32s ∗pLevels[3], int nLevels[3], Npp8u ∗pBuffer)

  Three-channel 8-bit unsigned HistogramRange.

- NppStatus nppiHistogramRange_8u_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[4], const Npp32s ∗pLevels[4], int nLevels[4], Npp8u ∗pBuffer)

  Four-channel 8-bit unsigned HistogramRange.

- NppStatus nppiHistogramRange_8u_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[3], const Npp32s ∗pLevels[3], int nLevels[3], Npp8u ∗pBuffer)

  Four-channel 8-bit unsigned HistogramRange ignoring alpha channel.

- NppStatus nppiHistogramRange_16u_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist, const Npp32s ∗pLevels, int nLevels, Npp8u ∗pBuffer)

  One-channel 16-bit unsigned HistogramRange.

- NppStatus nppiHistogramRange_16u_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[3], const Npp32s ∗pLevels[3], int nLevels[3], Npp8u ∗pBuffer)

  Three-channel 16-bit unsigned HistogramRange.

- NppStatus nppiHistogramRange_16u_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[4], const Npp32s ∗pLevels[4], int nLevels[4], Npp8u ∗pBuffer)

  Four-channel 16-bit unsigned HistogramRange.

- NppStatus nppiHistogramRange_16u_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[3], const Npp32s ∗pLevels[3], int nLevels[3], Npp8u ∗pBuffer)

  Four-channel 16-bit unsigned HistogramRange ignoring alpha channel.

- NppStatus nppiHistogramRange_16s_C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist, const Npp32s ∗pLevels, int nLevels, Npp8u ∗pBuffer)

  One-channel 16-bit signed HistogramRange.

- NppStatus nppiHistogramRange_16s_C3R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[3], const Npp32s ∗pLevels[3], int nLevels[3], Npp8u ∗pBuffer)

  Three-channel 16-bit signed HistogramRange.

- NppStatus nppiHistogramRange_16s_C4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[4], const Npp32s ∗pLevels[4], int nLevels[4], Npp8u ∗pBuffer)

  Four-channel 16-bit signed HistogramRange.

- NppStatus nppiHistogramRange_16s_AC4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[3], const Npp32s ∗pLevels[3], int nLevels[3], Npp8u ∗pBuffer)

  Four-channel 16-bit signed HistogramRange.

- NppStatus nppiHistogramRange_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist, const Npp32f ∗pLevels, int nLevels, Npp8u ∗pBuffer)

  One-channel 32-bit floating point HistogramRange.

- NppStatus nppiHistogramRange_32f_C3R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[3], const Npp32f ∗pLevels[3], int nLevels[3], Npp8u ∗pBuffer)

  Three-channel 32-bit floating point HistogramRange.

- NppStatus nppiHistogramRange_32f_C4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[4], const Npp32f ∗pLevels[4], int nLevels[4], Npp8u ∗pBuffer)

  Four-channel 32-bit floating point HistogramRange.

- NppStatus nppiHistogramRange_32f_AC4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSizeROI, Npp32s ∗pHist[3], const Npp32f ∗pLevels[3], int nLevels[3], Npp8u ∗pBuffer)

  Four-channel 32-bit floating point HistogramRange ignoring alpha channel.

HistogramRangeGetBufferSize

Companion primitives for computing the device buffer size (in bytes) required by the HistogramRange primitives.

- NppStatus nppiHistogramRangeGetBufferSize_8u_C1R (NppiSize oSizeROI, int nLevels, int ∗hpBufferSize)

  Scratch-buffer size for nppiHistogramRange_8u_C1R.

- NppStatus nppiHistogramRangeGetBufferSize_8u_C3R (NppiSize oSizeROI, int nLevels[3], int ∗hpBufferSize)

  Scratch-buffer size for nppiHistogramRange_8u_C3R.

- NppStatus nppiHistogramRangeGetBufferSize_8u_C4R (NppiSize oSizeROI, int nLevels[4], int ∗hpBufferSize)

  Scratch-buffer size for nppiHistogramRange_8u_C4R.

- NppStatus nppiHistogramRangeGetBufferSize_8u_AC4R (NppiSize oSizeROI, int nLevels[3], int ∗hpBufferSize)

  Scratch-buffer size for nppiHistogramRange_8u_AC4R.

- NppStatus nppiHistogramRangeGetBufferSize_16u_C1R (NppiSize oSizeROI, int nLevels, int ∗hpBufferSize)

  Scratch-buffer size for nppiHistogramRange_16u_C1R.

- NppStatus nppiHistogramRangeGetBufferSize_16u_C3R (NppiSize oSizeROI, int nLevels[3], int ∗hpBufferSize)

  Scratch-buffer size for nppiHistogramRange_16u_C3R.

- NppStatus nppiHistogramRangeGetBufferSize_16u_C4R (NppiSize oSizeROI, int nLevels[4], int ∗hpBufferSize)

  Scratch-buffer size for nppiHistogramRange_16u_C4R.

- NppStatus nppiHistogramRangeGetBufferSize_16u_AC4R (NppiSize oSizeROI, int nLevels[3], int ∗hpBufferSize)

  Scratch-buffer size for nppiHistogramRange_16u_AC4R.

- NppStatus nppiHistogramRangeGetBufferSize_16s_C1R (NppiSize oSizeROI, int nLevels, int ∗hpBufferSize)

  Scratch-buffer size for nppiHistogramRange_16s_C1R.

- NppStatus nppiHistogramRangeGetBufferSize_16s_C3R (NppiSize oSizeROI, int nLevels[3], int ∗hpBufferSize)

  Scratch-buffer size for nppiHistogramRange_16s_C3R.

- NppStatus nppiHistogramRangeGetBufferSize_16s_C4R (NppiSize oSizeROI, int nLevels[4], int ∗hpBufferSize)

  Scratch-buffer size for nppiHistogramRange_16s_C4R.

- NppStatus nppiHistogramRangeGetBufferSize_16s_AC4R (NppiSize oSizeROI, int nLevels[3], int ∗hpBufferSize)

  Scratch-buffer size for nppiHistogramRange_16s_AC4R.

- NppStatus nppiHistogramRangeGetBufferSize_32f_C1R (NppiSize oSizeROI, int nLevels, int ∗hpBufferSize)

  Scratch-buffer size for nppiHistogramRange_32f_C1R.

- NppStatus nppiHistogramRangeGetBufferSize_32f_C3R (NppiSize oSizeROI, int nLevels[3], int ∗hpBufferSize)

  Scratch-buffer size for nppiHistogramRange_32f_C3R.

- NppStatus nppiHistogramRangeGetBufferSize_32f_C4R (NppiSize oSizeROI, int nLevels[4], int ∗hpBufferSize)

  Scratch-buffer size for nppiHistogramRange_32f_C4R.

- NppStatus nppiHistogramRangeGetBufferSize_32f_AC4R (NppiSize oSizeROI, int nLevels[3], int ∗hpBufferSize)

  Scratch-buffer size for nppiHistogramRange_32f_AC4R.

7.32.1 Detailed Description

Primitives for computing the histogram of an image within specified ranges.

7.32.2 Function Documentation

7.32.2.1 NppStatus nppiHistogramRange_16s_AC4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*[3], const Npp32s ∗ *pLevels*[3], int *nLevels*[3], Npp8u ∗ *pBuffer*)

Four-channel 16-bit signed HistogramRange.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Array of pointers which are receiving the computed histograms per color channel. Array pointed by pHist[i] must be of size nLevels[i]-1.

nLevels Array containing number of levels per color channel.

pLevels Array containing pointers to level-arrays per color channel. Array pointed by pLevel[i] must be of size nLevels[i].

pBuffer Pointer to appropriately sized (nppiHistogramRangeGetBufferSize_16s_AC4R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.32.2.2 NppStatus nppiHistogramRange_16s_C1R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*, const Npp32s ∗ *pLevels*, int *nLevels*, Npp8u ∗ *pBuffer*)

One-channel 16-bit signed HistogramRange.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Pointer to array that receives the computed histogram. The array must be of size nLevels-1.

pLevels Pointer to array containing the level sizes of the bins. The array must be of size nLevels.

nLevels Number of levels in histogram.

pBuffer Pointer to appropriately sized (nppiHistogramRangeGetBufferSize_16s_C1R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.32.2.3 NppStatus nppiHistogramRange_16s_C3R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*[3], const Npp32s ∗ *pLevels*[3], int *nLevels*[3], Npp8u ∗ *pBuffer*)

Three-channel 16-bit signed HistogramRange.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Array of pointers which are receiving the computed histograms per color channel. Array pointed by pHist[i] must be of size nLevels[i]-1.

nLevels Array containing number of levels per color channel.

pLevels Array containing pointers to level-arrays per color channel. Array pointed by pLevel[i] must be of size nLevels[i].

pBuffer Pointer to appropriately sized (nppiHistogramRangeGetBufferSize_16s_C3R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.32.2.4 NppStatus nppiHistogramRange_16s_C4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*[4], const Npp32s ∗ *pLevels*[4], int *nLevels*[4], Npp8u ∗ *pBuffer*)

Four-channel 16-bit signed HistogramRange.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Array of pointers which are receiving the computed histograms per color channel. Array pointed by pHist[i] must be of size nLevels[i]-1.

nLevels Array containing number of levels per color channel.

pLevels Array containing pointers to level-arrays per color channel. Array pointed by pLevel[i] must be of size nLevels[i].

pBuffer Pointer to appropriately sized (nppiHistogramRangeGetBufferSize_16s_C4R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.32.2.5 NppStatus nppiHistogramRange_16u_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*[3], const Npp32s ∗ *pLevels*[3], int *nLevels*[3], Npp8u ∗ *pBuffer*)

Four-channel 16-bit unsigned HistogramRange ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Array of pointers which are receiving the computed histograms per color channel. Array pointed by pHist[i] must be of size nLevels[i]-1.

nLevels Array containing number of levels per color channel.

pLevels Array containing pointers to level-arrays per color channel. Array pointed by pLevel[i] must be of size nLevels[i].

pBuffer Pointer to appropriately sized (nppiHistogramRangeGetBufferSize_16u_AC4R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.32.2.6 NppStatus nppiHistogramRange_16u_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*, const Npp32s ∗ *pLevels*, int *nLevels*, Npp8u ∗ *pBuffer*)

One-channel 16-bit unsigned HistogramRange.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Pointer to array that receives the computed histogram. The array must be of size nLevels-1.

pLevels Pointer to array containing the level sizes of the bins. The array must be of size nLevels.

nLevels Number of levels in histogram.

pBuffer Pointer to appropriately sized (nppiHistogramRangeGetBufferSize_16u_C1R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.32.2.7 NppStatus nppiHistogramRange_16u_C3R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*[3], const Npp32s ∗ *pLevels*[3], int *nLevels*[3], Npp8u ∗ *pBuffer*)

Three-channel 16-bit unsigned HistogramRange.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Array of pointers which are receiving the computed histograms per color channel. Array pointed by pHist[i] must be of size nLevels[i]-1.

nLevels Array containing number of levels per color channel.

pLevels Array containing pointers to level-arrays per color channel. Array pointed by pLevel[i] must be of size nLevels[i].

pBuffer Pointer to appropriately sized (nppiHistogramRangeGetBufferSize_16u_C3R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.32.2.8 NppStatus nppiHistogramRange_16u_C4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*[4], const Npp32s ∗ *pLevels*[4], int *nLevels*[4], Npp8u ∗ *pBuffer*)

Four-channel 16-bit unsigned HistogramRange.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Array of pointers which are receiving the computed histograms per color channel. Array pointed by pHist[i] must be of size nLevels[i]-1.

nLevels Array containing number of levels per color channel.

pLevels Array containing pointers to level-arrays per color channel. Array pointed by pLevel[i] must be of size nLevels[i].

pBuffer Pointer to appropriately sized (nppiHistogramRangeGetBufferSize_16u_C4R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.32.2.9 NppStatus nppiHistogramRange_32f_AC4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*[3], const Npp32f ∗ *pLevels*[3], int *nLevels*[3], Npp8u ∗ *pBuffer*)

Four-channel 32-bit floating point HistogramRange ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Array of pointers which are receiving the computed histograms per color channel. Array pointed by pHist[i] must be of size nLevels[i]-1.

nLevels Array containing number of levels per color channel.

pLevels Array containing pointers to level-arrays per color channel. Array pointed by pLevel[i] must be of size nLevels[i].

pBuffer Pointer to appropriately sized (nppiHistogramRangeGetBufferSize_32f_AC4R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.32.2.10 NppStatus nppiHistogramRange_32f_C1R (const Npp32f * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s * *pHist*, const Npp32f * *pLevels*, int *nLevels*, Npp8u * *pBuffer*)

One-channel 32-bit floating point HistogramRange.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Pointer to array that receives the computed histogram. The array must be of size nLevels-1.

pLevels Pointer to array containing the level sizes of the bins. The array must be of size nLevels.

nLevels Number of levels in histogram.

pBuffer Pointer to appropriately sized (nppiHistogramRangeGetBufferSize_32f_C1R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.32.2.11 NppStatus nppiHistogramRange_32f_C3R (const Npp32f * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s * *pHist*[3], const Npp32f * *pLevels*[3], int *nLevels*[3], Npp8u * *pBuffer*)

Three-channel 32-bit floating point HistogramRange.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Array of pointers which are receiving the computed histograms per color channel. Array pointed by pHist[i] must be of size nLevels[i]-1.

nLevels Array containing number of levels per color channel.

pLevels Array containing pointers to level-arrays per color channel. Array pointed by pLevel[i] must be of size nLevels[i].

pBuffer Pointer to appropriately sized (nppiHistogramRangeGetBufferSize_32f_C3R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.32.2.12 NppStatus nppiHistogramRange_32f_C4R (const Npp32f * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s * *pHist*[4], const Npp32f * *pLevels*[4], int *nLevels*[4], Npp8u * *pBuffer*)

Four-channel 32-bit floating point HistogramRange.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Array of pointers which are receiving the computed histograms per color channel. Array pointed by pHist[i] must be of size nLevels[i]-1.

nLevels Array containing number of levels per color channel.

pLevels Array containing pointers to level-arrays per color channel. Array pointed by pLevel[i] must be of size nLevels[i].

pBuffer Pointer to appropriately sized (nppiHistogramRangeGetBufferSize_32f_C4R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.32.2.13 NppStatus nppiHistogramRange_8u_AC4R (const Npp8u * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s * *pHist*[3], const Npp32s * *pLevels*[3], int *nLevels*[3], Npp8u * *pBuffer*)

Four-channel 8-bit unsigned HistogramRange ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Array of pointers which are receiving the computed histograms per color channel. Array pointed by pHist[i] must be of size nLevels[i]-1.

nLevels Array containing number of levels per color channel.

pLevels Array containing pointers to level-arrays per color channel. Array pointed by pLevel[i] must be of size nLevels[i].

pBuffer Pointer to appropriately sized (nppiHistogramRangeGetBufferSize_8u_AC4R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.32.2.14 NppStatus nppiHistogramRange_8u_C1R (const Npp8u * *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s * *pHist*, const Npp32s * *pLevels*, int *nLevels*, Npp8u * *pBuffer*)

One-channel 8-bit unsigned HistogramRange.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Pointer to array that receives the computed histogram. The array must be of size nLevels-1.

pLevels Pointer to array containing the level sizes of the bins. The array must be of size nLevels.

nLevels Number of levels in histogram.

pBuffer Pointer to appropriately sized (nppiHistogramRangeGetBufferSize_8u_C1R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.32.2.15 NppStatus nppiHistogramRange_8u_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*[3], const Npp32s ∗ *pLevels*[3], int *nLevels*[3], Npp8u ∗ *pBuffer*)

Three-channel 8-bit unsigned HistogramRange.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Array of pointers which are receiving the computed histograms per color channel. Array pointed by pHist[i] must be of size nLevels[i]-1.

nLevels Array containing number of levels per color channel.

pLevels Array containing pointers to level-arrays per color channel. Array pointed by pLevel[i] must be of size nLevels[i].

pBuffer Pointer to appropriately sized (nppiHistogramRangeGetBufferSize_8u_C3R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.32.2.16 NppStatus nppiHistogramRange_8u_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSizeROI*, Npp32s ∗ *pHist*[4], const Npp32s ∗ *pLevels*[4], int *nLevels*[4], Npp8u ∗ *pBuffer*)

Four-channel 8-bit unsigned HistogramRange.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pHist Array of pointers which are receiving the computed histograms per color channel. Array pointed by pHist[i] must be of size nLevels[i]-1.

nLevels Array containing number of levels per color channel.

pLevels Array containing pointers to level-arrays per color channel. Array pointed by pLevel[i] must be of size nLevels[i].

pBuffer Pointer to appropriately sized (nppiHistogramRangeGetBufferSize_8u_C4R) scratch buffer.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.32.2.17 NppStatus nppiHistogramRangeGetBufferSize_16s_AC4R (NppiSize *oSizeROI*, int *nLevels*[3], int ∗ *hpBufferSize*)

Scratch-buffer size for nppiHistogramRange_16s_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Array containing number of levels per color channel.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.32.2.18 NppStatus nppiHistogramRangeGetBufferSize_16s_C1R (NppiSize *oSizeROI*, int *nLevels*, int ∗ *hpBufferSize*)

Scratch-buffer size for nppiHistogramRange_16s_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Number of levels in the histogram.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.32.2.19 NppStatus nppiHistogramRangeGetBufferSize_16s_C3R (NppiSize *oSizeROI*, int *nLevels*[3], int ∗ *hpBufferSize*)

Scratch-buffer size for nppiHistogramRange_16s_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Array containing number of levels per color channel.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.32.2.20 NppStatus nppiHistogramRangeGetBufferSize_16s_C4R (NppiSize *oSizeROI*, int *nLevels*[4], int ∗ *hpBufferSize*)

Scratch-buffer size for nppiHistogramRange_16s_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Array containing number of levels per color channel.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.32.2.21 NppStatus nppiHistogramRangeGetBufferSize_16u_AC4R (NppiSize *oSizeROI*, int *nLevels*[3], int ∗ *hpBufferSize*)

Scratch-buffer size for nppiHistogramRange_16u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Array containing number of levels per color channel.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.32.2.22 NppStatus nppiHistogramRangeGetBufferSize_16u_C1R (NppiSize *oSizeROI*, int *nLevels*, int ∗ *hpBufferSize*)

Scratch-buffer size for nppiHistogramRange_16u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Number of levels in the histogram.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.32.2.23 NppStatus nppiHistogramRangeGetBufferSize_16u_C3R (NppiSize *oSizeROI*, int *nLevels*[3], int ∗ *hpBufferSize*)

Scratch-buffer size for nppiHistogramRange_16u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Array containing number of levels per color channel.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.32.2.24 NppStatus nppiHistogramRangeGetBufferSize_16u_C4R (NppiSize *oSizeROI*, int *nLevels*[4], int ∗ *hpBufferSize*)

Scratch-buffer size for nppiHistogramRange_16u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Array containing number of levels per color channel.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.32.2.25 NppStatus nppiHistogramRangeGetBufferSize_32f_AC4R (NppiSize *oSizeROI*, int *nLevels*[3], int ∗ *hpBufferSize*)

Scratch-buffer size for nppiHistogramRange_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Array containing number of levels per color channel.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.32.2.26 NppStatus nppiHistogramRangeGetBufferSize_32f_C1R (NppiSize *oSizeROI*, int *nLevels*, int ∗ *hpBufferSize*)

Scratch-buffer size for nppiHistogramRange_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Number of levels in the histogram.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.32.2.27 NppStatus nppiHistogramRangeGetBufferSize_32f_C3R (NppiSize *oSizeROI*, int *nLevels*[3], int ∗ *hpBufferSize*)

Scratch-buffer size for nppiHistogramRange_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Array containing number of levels per color channel.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.32.2.28 NppStatus nppiHistogramRangeGetBufferSize_32f_C4R (NppiSize *oSizeROI*, int *nLevels*[4], int ∗ *hpBufferSize*)

Scratch-buffer size for nppiHistogramRange_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Array containing number of levels per color channel.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.32.2.29 NppStatus nppiHistogramRangeGetBufferSize_8u_AC4R (NppiSize *oSizeROI*, int *nLevels*[3], int ∗ *hpBufferSize*)

Scratch-buffer size for nppiHistogramRange_8u_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Array containing number of levels per color channel.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.32.2.30 NppStatus nppiHistogramRangeGetBufferSize_8u_C1R (NppiSize *oSizeROI*, int *nLevels*, int ∗ *hpBufferSize*)

Scratch-buffer size for nppiHistogramRange_8u_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Number of levels in the histogram.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.32.2.31 NppStatus nppiHistogramRangeGetBufferSize_8u_C3R (NppiSize *oSizeROI*, int *nLevels*[3], int ∗ *hpBufferSize*)

Scratch-buffer size for nppiHistogramRange_8u_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Array containing number of levels per color channel.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.32.2.32 NppStatus nppiHistogramRangeGetBufferSize_8u_C4R (NppiSize *oSizeROI*, int *nLevels*[4], int ∗ *hpBufferSize*)

Scratch-buffer size for nppiHistogramRange_8u_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

nLevels Array containing number of levels per color channel.

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes..

7.33 Image Proximity

Primitives for computing the proximity measure between a source image and a template image.

Modules

- SqrDistanceFull_Norm

  Primitives for computing the normalized Euclidean distance between two images with full mode.

- SqrDistanceSame_Norm

  Primitives for computing the normalized Euclidean distance between two images with same mode.

- SqrDistanceValid_Norm

  Primitives for computing the normalized Euclidean distance between two images with valid mode.

- CrossCorrFull_Norm

  Primitives for computing the normalized cross correlation between two images with full mode.

- CrossCorrSame_Norm

  Primitives for computing the normalized cross correlation between two images with same mode.

- CrossCorrValid_Norm

  Primitives for computing the normalized cross correlation between two images with valid mode.

- CrossCorrValid

  Primitives for computing the cross correlation between two images with valid mode.

- CrossCorrFull_NormLevel

  Primitives for computing the normalized cross correlation coefficient between two images with full mode.

- CrossCorrSame_NormLevel

  Primitives for computing the normalized cross correlation coefficient between two images with same mode.

- CrossCorrValid_NormLevel

  Primitives for computing the normalized cross correlation coefficient between two images with valid mode.

7.33.1 Detailed Description

Primitives for computing the proximity measure between a source image and a template image.

7.33.2 General Introduction

There are basically two approaches to compute the proximity measure for template matching, Euclidean distance and the cross correlation.

1. Euclidean distance computes the sum of the squared distance (SSD) between the corresponding pixels of the source image and the template image. The smaller the distance is, the more similar the source image and the template image is around the pixel. The anchor of the template image is used during the computations, which always lies in the gemotric center of the image. Given a source image $pSrc$ ($W_s \times H_s$) and a template image $pTpl$ ($W_t \times H_t$), the Euclidean distance $D_{st}(c, r)$ between two images at pixel in row r and column c is computed as (s stands for source image and t for template image for short):

$$D_{st}(c,r) = \sum_{j=0}^{H_t-1} \sum_{i=0}^{W_t-1} [pTpl(j,i) - pSrc(j + c - \frac{H_t}{2}, i + r - \frac{W_t}{2})]^2$$

2. Cross correlation computes the sum of the product between the corresponding pixels of the source image and the template image. The cross correlation $R_{st}(c, r)$ is calculated as:

$$R_{st}(c,r) = \sum_{j=0}^{H_t-1} \sum_{i=0}^{W_t-1} [pTpl(j,i) \cdot pSrc(j + c - \frac{H_t}{2}, i + r - \frac{W_t}{2})]$$

   The larger the cross correlation value is, the more similar the source image and the template image is around the pixel.

3. The cross correlation $R_{st}(c, r)$ is affected by the brightness of the images which may vary due to the lighting and exposure conditions. Therefore, NPP computes the cross correlation coefficient to circumvent this dependence. This is typically done at every step by subtracting the mean from every pixel value, i.e.,

$$\tilde{R}_{st}(c,r) = \sum_{j=0}^{H_t-1} \sum_{i=0}^{W_t-1} [pTpl(j,i) - Mean_t] \cdot [pSrc(j + c - \frac{H_t}{2}, i + r - \frac{W_t}{2}) - Mean_s]$$

NPP computes the normalized values of Euclidean distance, cross correlation and the cross correlation coefficient.

1. The normalized Euclidean distance $\sigma_{st}(c, r)$ is defined as:

$$\sigma_{st}(c,r) = \frac{D_{st}(c,r)}{\sqrt{R_{ss}(c,r) \cdot R_{tt}(\frac{H_t}{2}, \frac{W_t}{2})}}$$

2. The normalized cross correlation $\rho_{st}(c, r)$ is defined as:

$$\rho_{st}(c,r) = \frac{R_{st}(c,r)}{\sqrt{R_{ss}(c,r) \cdot R_{tt}(\frac{H_t}{2}, \frac{W_t}{2})}}$$

   The $R_{ss}(c, r)$ and $R_{tt}(\frac{H_t}{2}, \frac{W_t}{2}$ denote the auto correlation of the source image and the template image individually. They are defined as:

$$R_{ss}(c,r) = \sum_{j=c-\frac{H_t}{2}}^{c+\frac{H_t}{2}} \sum_{i=r-\frac{W_t}{2}}^{r+\frac{W_t}{2}} pSrc(j,i)$$

$$R_{tt}(\frac{H_t}{2}, \frac{W_t}{2}) = \sum_{j=0}^{H_t-1} \sum_{i=0}^{W_t-1} pTpl(j,i)$$

3. Similarly, the normalized cross correlation coefficient $\gamma_{st}(c,r)$ is calculated as:

$$\gamma_{st}(c,r) = \frac{\tilde{R}_{st}(c,r)}{\sqrt{\tilde{R}_{ss}(c,r) \cdot \tilde{R}_{tt}(\frac{H_t}{2}, \frac{W_t}{2})}}$$

   The $\tilde{R}_{ss}(c,r)$ and $\tilde{R}_{tt}(\frac{H_t}{2}, \frac{W_t}{2}$ are defined as:

$$\tilde{R}_{ss}(c,r) = \sum_{j=c-\frac{H_t}{2}}^{c+\frac{H_t}{2}} \sum_{i=r-\frac{W_t}{2}}^{r+\frac{W_t}{2}} [pSrc(j,i) - Mean_s]$$

$$\tilde{R}_{tt}(\frac{H_t}{2}, \frac{W_t}{2}) = \sum_{j=0}^{H_t-1} \sum_{i=0}^{W_t-1} [pTpl(j,i) - Mean_t]$$

7.33.3 Categorizations

The Euclidean distance and the cross correlation are categorized into three types, full, same, and valid.

1. Full mode indicates that the anchor of the template image starts from the outside of the source image, assuming the out-of-boundary pixels are zeor-padded. The size of the destination image is $(W_s + W_t - 1) \times (H_s + H_t - 1)$.

2. Same mode means that the anchor of the template image starts from the top left pixel of the source image. All the out-of-boundary pixels are also zero-padded. The size of the destination image is the same as the source one, i.e., $W_s \times H_s$.

3. Valid mode indicates that there are no out-of-boudnary readings from the source image. The anchor of the template image starts from the inside of the source image. The size of the destination image is $(W_s - W_t + 1) \times (H_s - H_t + 1)$.

7.34 SqrDistanceFull_Norm

Primitives for computing the normalized Euclidean distance between two images with full mode.

SqrDistanceFull_Norm

The functions compute the $\sigma_{st}(c, r)$ in General Introduction with full mode (see Categorizations).

- NppStatus nppiSqrDistanceFull_Norm_8u_C1RSfs (const Npp8u *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u *pDst, int nDstStep, int nScaleFactor)

  One-channel 8-bit unsigned image SqrDistanceFull_Norm, scaled by $2^(- nScaleFactor)$.

- NppStatus nppiSqrDistanceFull_Norm_8u_C3RSfs (const Npp8u *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u *pDst, int nDstStep, int nScaleFactor)

  Three-channel 8-bit unsigned image SqrDistanceFull_Norm, scaled by $2^(- nScaleFactor)$.

- NppStatus nppiSqrDistanceFull_Norm_8u_C4RSfs (const Npp8u *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u *pDst, int nDstStep, int nScaleFactor)

  Four-channel 8-bit unsigned image SqrDistanceFull_Norm, scaled by $2^(- nScaleFactor)$.

- NppStatus nppiSqrDistanceFull_Norm_8u_AC4RSfs (const Npp8u *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u *pDst, int nDstStep, int nScaleFactor)

  Four-channel 8-bit unsigned image SqrDistanceFull_Norm ignoring alpha channel, scaled by $2^(- nScaleFactor)$.

- NppStatus nppiSqrDistanceFull_Norm_32f_C1R (const Npp32f *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f *pDst, int nDstStep)

  One-channel 32-bit floating point image SqrDistanceFull_Norm.

- NppStatus nppiSqrDistanceFull_Norm_32f_C3R (const Npp32f *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f *pDst, int nDstStep)

  Three-channel 32-bit floating point image SqrDistanceFull_Norm.

- NppStatus nppiSqrDistanceFull_Norm_32f_C4R (const Npp32f *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f *pDst, int nDstStep)

  Four-channel 32-bit floating point image SqrDistanceFull_Norm.

- NppStatus nppiSqrDistanceFull_Norm_32f_AC4R (const Npp32f *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f *pDst, int nDstStep)

  Four-channel 32-bit floating point image SqrDistanceFull_Norm ignoring alpha channel.

- NppStatus nppiSqrDistanceFull_Norm_8u32f_C1R (const Npp8u *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f *pDst, int nDstStep)

  One-channel 8-bit unsigned image SqrDistanceFull_Norm.

- NppStatus nppiSqrDistanceFull_Norm_8u32f_C3R (const Npp8u *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f *pDst, int nDstStep)

Three-channel 8-bit unsigned image SqrDistanceFull_Norm.

- NppStatus nppiSqrDistanceFull_Norm_8u32f_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit unsigned image SqrDistanceFull_Norm.

- NppStatus nppiSqrDistanceFull_Norm_8u32f_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit unsigned image SqrDistanceFull_Norm ignoring alpha channel.

- NppStatus nppiSqrDistanceFull_Norm_8s32f_C1R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 8-bit signed image SqrDistanceFull_Norm.

- NppStatus nppiSqrDistanceFull_Norm_8s32f_C3R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Three-channel 8-bit signed image SqrDistanceFull_Norm.

- NppStatus nppiSqrDistanceFull_Norm_8s32f_C4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit signed image SqrDistanceFull_Norm.

- NppStatus nppiSqrDistanceFull_Norm_8s32f_AC4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit signed image SqrDistanceFull_Norm ignoring alpha channel.

- NppStatus nppiSqrDistanceFull_Norm_16u32f_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 16-bit unsigned image SqrDistanceFull_Norm.

- NppStatus nppiSqrDistanceFull_Norm_16u32f_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Three-channel 16-bit unsigned image SqrDistanceFull_Norm.

- NppStatus nppiSqrDistanceFull_Norm_16u32f_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 16-bit unsigned image SqrDistanceFull_Norm.

- NppStatus nppiSqrDistanceFull_Norm_16u32f_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 16-bit unsigned image SqrDistanceFull_Norm ignoring alpha channel.

7.34.1 Detailed Description

Primitives for computing the normalized Euclidean distance between two images with full mode.

7.34.2 Function Documentation

7.34.2.1 NppStatus nppiSqrDistanceFull_Norm_16u32f_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 16-bit unsigned image SqrDistanceFull_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.34.2.2 NppStatus nppiSqrDistanceFull_Norm_16u32f_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 16-bit unsigned image SqrDistanceFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.34.2.3 NppStatus nppiSqrDistanceFull_Norm_16u32f_C3R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Three-channel 16-bit unsigned image SqrDistanceFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.34.2.4 NppStatus nppiSqrDistanceFull_Norm_16u32f_C4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 16-bit unsigned image SqrDistanceFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.34.2.5 NppStatus nppiSqrDistanceFull_Norm_32f_AC4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 32-bit floating point image SqrDistanceFull_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.34.2.6 NppStatus nppiSqrDistanceFull_Norm_32f_C1R (const Npp32f $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f $*$ *pDst*, int *nDstStep*)

One-channel 32-bit floating point image SqrDistanceFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.34.2.7 NppStatus nppiSqrDistanceFull_Norm_32f_C3R (const Npp32f $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f $*$ *pDst*, int *nDstStep*)

Three-channel 32-bit floating point image SqrDistanceFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.34.2.8 NppStatus nppiSqrDistanceFull_Norm_32f_C4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 32-bit floating point image SqrDistanceFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.34.2.9 NppStatus nppiSqrDistanceFull_Norm_8s32f_AC4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 8-bit signed image SqrDistanceFull_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.34.2.10 NppStatus nppiSqrDistanceFull_Norm_8s32f_C1R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 8-bit signed image SqrDistanceFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.34.2.11 NppStatus nppiSqrDistanceFull_Norm_8s32f_C3R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Three-channel 8-bit signed image SqrDistanceFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.34.2.12 NppStatus nppiSqrDistanceFull_Norm_8s32f_C4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 8-bit signed image SqrDistanceFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.34.2.13 NppStatus nppiSqrDistanceFull_Norm_8u32f_AC4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 8-bit unsigned image SqrDistanceFull_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.34.2.14 NppStatus nppiSqrDistanceFull_Norm_8u32f_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 8-bit unsigned image SqrDistanceFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.34.2.15 NppStatus nppiSqrDistanceFull_Norm_8u32f_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Three-channel 8-bit unsigned image SqrDistanceFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.34.2.16 NppStatus nppiSqrDistanceFull_Norm_8u32f_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 8-bit unsigned image SqrDistanceFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.34.2.17 NppStatus nppiSqrDistanceFull_Norm_8u_AC4RSfs (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u $*$ *pDst*, int *nDstStep*, int *nScaleFactor*)

Four-channel 8-bit unsigned image SqrDistanceFull_Norm ignoring alpha channel, scaled by $2^(- nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.34.2.18 NppStatus nppiSqrDistanceFull_Norm_8u_C1RSfs (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u $*$ *pDst*, int *nDstStep*, int *nScaleFactor*)

One-channel 8-bit unsigned image SqrDistanceFull_Norm, scaled by $2^(- nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.34.2.19 NppStatus nppiSqrDistanceFull_Norm_8u_C3RSfs (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u $*$ *pDst*, int *nDstStep*, int *nScaleFactor*)

Three-channel 8-bit unsigned image SqrDistanceFull_Norm, scaled by $2^(-nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.34.2.20 NppStatus nppiSqrDistanceFull_Norm_8u_C4RSfs (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u $*$ *pDst*, int *nDstStep*, int *nScaleFactor*)

Four-channel 8-bit unsigned image SqrDistanceFull_Norm, scaled by $2^(-nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.35 SqrDistanceSame_Norm

Primitives for computing the normalized Euclidean distance between two images with same mode.

SqrDistanceSame_Norm

The functions compute the $\sigma_{st}(c, r)$ in General Introduction with same mode (see Categorizations).

- NppStatus nppiSqrDistanceSame_Norm_8u_C1RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor)

    One-channel 8-bit unsigned image SqrDistanceSame_Norm, scaled by $2^(- nScaleFactor)$*.*

- NppStatus nppiSqrDistanceSame_Norm_8u_C3RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor)

    Three-channel 8-bit unsigned image SqrDistanceSame_Norm, scaled by $2^(- nScaleFactor)$*.*

- NppStatus nppiSqrDistanceSame_Norm_8u_C4RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor)

    Four-channel 8-bit unsigned image SqrDistanceSame_Norm, scaled by $2^(- nScaleFactor)$*.*

- NppStatus nppiSqrDistanceSame_Norm_8u_AC4RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor)

    Four-channel 8-bit unsigned image SqrDistanceSame_Norm ignoring alpha channel, scaled by $2^(- nScaleFactor)$*.*

- NppStatus nppiSqrDistanceSame_Norm_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

    One-channel 32-bit floating point image SqrDistanceSame_Norm.

- NppStatus nppiSqrDistanceSame_Norm_32f_C3R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

    Three-channel 32-bit floating point image SqrDistanceSame_Norm.

- NppStatus nppiSqrDistanceSame_Norm_32f_C4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

    Four-channel 32-bit floating point image SqrDistanceSame_Norm.

- NppStatus nppiSqrDistanceSame_Norm_32f_AC4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

    Four-channel 32-bit floating point image SqrDistanceSame_Norm ignoring alpha channel.

- NppStatus nppiSqrDistanceSame_Norm_8u32f_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

    One-channel 8-bit unsigned image SqrDistanceSame_Norm.

- NppStatus nppiSqrDistanceSame_Norm_8u32f_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Three-channel 8-bit unsigned image SqrDistanceSame_Norm.

- NppStatus nppiSqrDistanceSame_Norm_8u32f_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit unsigned image SqrDistanceSame_Norm.

- NppStatus nppiSqrDistanceSame_Norm_8u32f_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit unsigned image SqrDistanceSame_Norm ignoring alpha channel.

- NppStatus nppiSqrDistanceSame_Norm_8s32f_C1R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 8-bit signed image SqrDistanceSame_Norm.

- NppStatus nppiSqrDistanceSame_Norm_8s32f_C3R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Three-channel 8-bit signed image SqrDistanceSame_Norm.

- NppStatus nppiSqrDistanceSame_Norm_8s32f_C4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit signed image SqrDistanceSame_Norm.

- NppStatus nppiSqrDistanceSame_Norm_8s32f_AC4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit signed image SqrDistanceSame_Norm ignoring alpha channel.

- NppStatus nppiSqrDistanceSame_Norm_16u32f_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 16-bit unsigned image SqrDistanceSame_Norm.

- NppStatus nppiSqrDistanceSame_Norm_16u32f_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Three-channel 16-bit unsigned image SqrDistanceSame_Norm.

- NppStatus nppiSqrDistanceSame_Norm_16u32f_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 16-bit unsigned image SqrDistanceSame_Norm.

- NppStatus nppiSqrDistanceSame_Norm_16u32f_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 16-bit unsigned image SqrDistanceSame_Norm ignoring alpha channel.

7.35.1 Detailed Description

Primitives for computing the normalized Euclidean distance between two images with same mode.

7.35.2 Function Documentation

7.35.2.1 NppStatus nppiSqrDistanceSame_Norm_16u32f_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 16-bit unsigned image SqrDistanceSame_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.35.2.2 NppStatus nppiSqrDistanceSame_Norm_16u32f_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 16-bit unsigned image SqrDistanceSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.35.2.3 NppStatus nppiSqrDistanceSame_Norm_16u32f_C3R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Three-channel 16-bit unsigned image SqrDistanceSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.35.2.4 NppStatus nppiSqrDistanceSame_Norm_16u32f_C4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 16-bit unsigned image SqrDistanceSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.35.2.5 NppStatus nppiSqrDistanceSame_Norm_32f_AC4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 32-bit floating point image SqrDistanceSame_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.35.2.6 NppStatus nppiSqrDistanceSame_Norm_32f_C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 32-bit floating point image SqrDistanceSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.35.2.7 NppStatus nppiSqrDistanceSame_Norm_32f_C3R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Three-channel 32-bit floating point image SqrDistanceSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.35.2.8 NppStatus nppiSqrDistanceSame_Norm_32f_C4R (const Npp32f $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f $*$ *pDst*, int *nDstStep*)

Four-channel 32-bit floating point image SqrDistanceSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.35.2.9 NppStatus nppiSqrDistanceSame_Norm_8s32f_AC4R (const Npp8s $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f $*$ *pDst*, int *nDstStep*)

Four-channel 8-bit signed image SqrDistanceSame_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.35.2.10 NppStatus nppiSqrDistanceSame_Norm_8s32f_C1R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 8-bit signed image SqrDistanceSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.35.2.11 NppStatus nppiSqrDistanceSame_Norm_8s32f_C3R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Three-channel 8-bit signed image SqrDistanceSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.35.2.12 NppStatus nppiSqrDistanceSame_Norm_8s32f_C4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 8-bit signed image SqrDistanceSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.35.2.13 NppStatus nppiSqrDistanceSame_Norm_8u32f_AC4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 8-bit unsigned image SqrDistanceSame_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.35.2.14 NppStatus nppiSqrDistanceSame_Norm_8u32f_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 8-bit unsigned image SqrDistanceSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.35.2.15 NppStatus nppiSqrDistanceSame_Norm_8u32f_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Three-channel 8-bit unsigned image SqrDistanceSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.35.2.16 NppStatus nppiSqrDistanceSame_Norm_8u32f_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 8-bit unsigned image SqrDistanceSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.35.2.17 NppStatus nppiSqrDistanceSame_Norm_8u_AC4RSfs (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u $*$ *pDst*, int *nDstStep*, int *nScaleFactor*)

Four-channel 8-bit unsigned image SqrDistanceSame_Norm ignoring alpha channel, scaled by $2^(- nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.35.2.18 NppStatus nppiSqrDistanceSame_Norm_8u_C1RSfs (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u $*$ *pDst*, int *nDstStep*, int *nScaleFactor*)

One-channel 8-bit unsigned image SqrDistanceSame_Norm, scaled by $2^(- nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.35.2.19 NppStatus nppiSqrDistanceSame_Norm_8u_C3RSfs (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u ∗ *pDst*, int *nDstStep*, int *nScaleFactor*)

Three-channel 8-bit unsigned image SqrDistanceSame_Norm, scaled by $2^(- nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.35.2.20 NppStatus nppiSqrDistanceSame_Norm_8u_C4RSfs (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u ∗ *pDst*, int *nDstStep*, int *nScaleFactor*)

Four-channel 8-bit unsigned image SqrDistanceSame_Norm, scaled by $2^(- nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.36 SqrDistanceValid_Norm

Primitives for computing the normalized Euclidean distance between two images with valid mode.

SqrDistanceValid_Norm

The functions compute the $\sigma_{st}(c, r)$ in General Introduction with valid mode (see Categorizations).

- NppStatus nppiSqrDistanceValid_Norm_8u_C1RSfs (const Npp8u *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u *pDst, int nDstStep, int nScaleFactor)

  One-channel 8-bit unsigned image SqrDistanceValid_Norm, scaled by $2^(- nScaleFactor)$.

- NppStatus nppiSqrDistanceValid_Norm_8u_C3RSfs (const Npp8u *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u *pDst, int nDstStep, int nScaleFactor)

  Three-channel 8-bit unsigned image SqrDistanceValid_Norm, scaled by $2^(- nScaleFactor)$.

- NppStatus nppiSqrDistanceValid_Norm_8u_C4RSfs (const Npp8u *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u *pDst, int nDstStep, int nScaleFactor)

  Four-channel 8-bit unsigned image SqrDistanceValid_Norm, scaled by $2^(- nScaleFactor)$.

- NppStatus nppiSqrDistanceValid_Norm_8u_AC4RSfs (const Npp8u *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u *pDst, int nDstStep, int nScaleFactor)

  Four-channel 8-bit unsigned image SqrDistanceValid_Norm ignoring alpha channel, scaled by $2^(- nScaleFactor)$.

- NppStatus nppiSqrDistanceValid_Norm_32f_C1R (const Npp32f *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f *pDst, int nDstStep)

  One-channel 32-bit floating point image SqrDistanceValid_Norm.

- NppStatus nppiSqrDistanceValid_Norm_32f_C3R (const Npp32f *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f *pDst, int nDstStep)

  Three-channel 32-bit floating point image SqrDistanceValid_Norm.

- NppStatus nppiSqrDistanceValid_Norm_32f_C4R (const Npp32f *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f *pDst, int nDstStep)

  Four-channel 32-bit floating point image SqrDistanceValid_Norm.

- NppStatus nppiSqrDistanceValid_Norm_32f_AC4R (const Npp32f *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f *pDst, int nDstStep)

  Four-channel 32-bit floating point image SqrDistanceValid_Norm ignoring alpha channel.

- NppStatus nppiSqrDistanceValid_Norm_8u32f_C1R (const Npp8u *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f *pDst, int nDstStep)

  One-channel 8-bit unsigned image SqrDistanceValid_Norm.

- NppStatus nppiSqrDistanceValid_Norm_8u32f_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Three-channel 8-bit unsigned image SqrDistanceValid_Norm.

- NppStatus nppiSqrDistanceValid_Norm_8u32f_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit unsigned image SqrDistanceValid_Norm.

- NppStatus nppiSqrDistanceValid_Norm_8u32f_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit unsigned image SqrDistanceValid_Norm ignoring alpha channel.

- NppStatus nppiSqrDistanceValid_Norm_8s32f_C1R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 8-bit signed image SqrDistanceValid_Norm.

- NppStatus nppiSqrDistanceValid_Norm_8s32f_C3R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Three-channel 8-bit signed image SqrDistanceValid_Norm.

- NppStatus nppiSqrDistanceValid_Norm_8s32f_C4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit signed image SqrDistanceValid_Norm.

- NppStatus nppiSqrDistanceValid_Norm_8s32f_AC4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit signed image SqrDistanceValid_Norm ignoring alpha channel.

- NppStatus nppiSqrDistanceValid_Norm_16u32f_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 16-bit unsigned image SqrDistanceValid_Norm.

- NppStatus nppiSqrDistanceValid_Norm_16u32f_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Three-channel 16-bit unsigned image SqrDistanceValid_Norm.

- NppStatus nppiSqrDistanceValid_Norm_16u32f_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 16-bit unsigned image SqrDistanceValid_Norm.

- NppStatus nppiSqrDistanceValid_Norm_16u32f_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 16-bit unsigned image SqrDistanceValid_Norm ignoring alpha channel.

7.36.1 Detailed Description

Primitives for computing the normalized Euclidean distance between two images with valid mode.

7.36.2 Function Documentation

7.36.2.1 NppStatus nppiSqrDistanceValid_Norm_16u32f_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 16-bit unsigned image SqrDistanceValid_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.36.2.2 NppStatus nppiSqrDistanceValid_Norm_16u32f_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 16-bit unsigned image SqrDistanceValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.36.2.3 NppStatus nppiSqrDistanceValid_Norm_16u32f_C3R (const Npp16u * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f * *pDst*, int *nDstStep*)

Three-channel 16-bit unsigned image SqrDistanceValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.36.2.4 NppStatus nppiSqrDistanceValid_Norm_16u32f_C4R (const Npp16u * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f * *pDst*, int *nDstStep*)

Four-channel 16-bit unsigned image SqrDistanceValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.36.2.5 NppStatus nppiSqrDistanceValid_Norm_32f_AC4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 32-bit floating point image SqrDistanceValid_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.36.2.6 NppStatus nppiSqrDistanceValid_Norm_32f_C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 32-bit floating point image SqrDistanceValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.36.2.7 NppStatus nppiSqrDistanceValid_Norm_32f_C3R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Three-channel 32-bit floating point image SqrDistanceValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.36.2.8 NppStatus nppiSqrDistanceValid_Norm_32f_C4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 32-bit floating point image SqrDistanceValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.36.2.9 NppStatus nppiSqrDistanceValid_Norm_8s32f_AC4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 8-bit signed image SqrDistanceValid_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.36.2.10 NppStatus nppiSqrDistanceValid_Norm_8s32f_C1R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 8-bit signed image SqrDistanceValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.36.2.11 NppStatus nppiSqrDistanceValid_Norm_8s32f_C3R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Three-channel 8-bit signed image SqrDistanceValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.36.2.12 NppStatus nppiSqrDistanceValid_Norm_8s32f_C4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 8-bit signed image SqrDistanceValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.36.2.13 NppStatus nppiSqrDistanceValid_Norm_8u32f_AC4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 8-bit unsigned image SqrDistanceValid_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.36.2.14 NppStatus nppiSqrDistanceValid_Norm_8u32f_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 8-bit unsigned image SqrDistanceValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.36.2.15 NppStatus nppiSqrDistanceValid_Norm_8u32f_C3R (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f $*$ *pDst*, int *nDstStep*)

Three-channel 8-bit unsigned image SqrDistanceValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.36.2.16 NppStatus nppiSqrDistanceValid_Norm_8u32f_C4R (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f $*$ *pDst*, int *nDstStep*)

Four-channel 8-bit unsigned image SqrDistanceValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.36.2.17 NppStatus nppiSqrDistanceValid_Norm_8u_AC4RSfs (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u ∗ *pDst*, int *nDstStep*, int *nScaleFactor*)

Four-channel 8-bit unsigned image SqrDistanceValid_Norm ignoring alpha channel, scaled by $2^(- nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.36.2.18 NppStatus nppiSqrDistanceValid_Norm_8u_C1RSfs (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u ∗ *pDst*, int *nDstStep*, int *nScaleFactor*)

One-channel 8-bit unsigned image SqrDistanceValid_Norm, scaled by $2^(- nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.36.2.19 NppStatus nppiSqrDistanceValid_Norm_8u_C3RSfs (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u ∗ *pDst*, int *nDstStep*, int *nScaleFactor*)

Three-channel 8-bit unsigned image SqrDistanceValid_Norm, scaled by $2^(-nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.36.2.20 NppStatus nppiSqrDistanceValid_Norm_8u_C4RSfs (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u ∗ *pDst*, int *nDstStep*, int *nScaleFactor*)

Four-channel 8-bit unsigned image SqrDistanceValid_Norm, scaled by $2^(-nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.37 CrossCorrFull_Norm

Primitives for computing the normalized cross correlation between two images with full mode.

CrossCorrFull_Norm

The functions compute the $\rho_{st}(c, r)$ in General Introduction with full mode (see Categorizations).

- NppStatus nppiCrossCorrFull_Norm_8u_C1RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor)

  One-channel 8-bit unsigned image CrossCorrFull_Norm, scaled by $2^(- nScaleFactor)$*.*

- NppStatus nppiCrossCorrFull_Norm_8u_C3RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor)

  Three-channel 8-bit unsigned image CrossCorrFull_Norm, scaled by $2^(- nScaleFactor)$*.*

- NppStatus nppiCrossCorrFull_Norm_8u_C4RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor)

  Four-channel 8-bit unsigned image CrossCorrFull_Norm, scaled by $2^(- nScaleFactor)$*.*

- NppStatus nppiCrossCorrFull_Norm_8u_AC4RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor)

  Four-channel 8-bit unsigned image CrossCorrFull_Norm ignoring alpha channel, scaled by $2^(- nScaleFactor)$*.*

- NppStatus nppiCrossCorrFull_Norm_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 32-bit floating point image CrossCorrFull_Norm.

- NppStatus nppiCrossCorrFull_Norm_32f_C3R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Three-channel 32-bit floating point image CrossCorrFull_Norm.

- NppStatus nppiCrossCorrFull_Norm_32f_C4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 32-bit floating point image CrossCorrFull_Norm.

- NppStatus nppiCrossCorrFull_Norm_32f_AC4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 32-bit floating point image CrossCorrFull_Norm ignoring alpha channel.

- NppStatus nppiCrossCorrFull_Norm_8u32f_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 8-bit unsigned image CrossCorrFull_Norm.

- NppStatus nppiCrossCorrFull_Norm_8u32f_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

Three-channel 8-bit unsigned image CrossCorrFull_Norm.

- NppStatus nppiCrossCorrFull_Norm_8u32f_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit unsigned image CrossCorrFull_Norm.

- NppStatus nppiCrossCorrFull_Norm_8u32f_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit unsigned image CrossCorrFull_Norm ignoring alpha channel.

- NppStatus nppiCrossCorrFull_Norm_8s32f_C1R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 8-bit signed image CrossCorrFull_Norm.

- NppStatus nppiCrossCorrFull_Norm_8s32f_C3R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Three-channel 8-bit signed image CrossCorrFull_Norm.

- NppStatus nppiCrossCorrFull_Norm_8s32f_C4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit signed image CrossCorrFull_Norm.

- NppStatus nppiCrossCorrFull_Norm_8s32f_AC4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit signed image CrossCorrFull_Norm ignoring alpha channel.

- NppStatus nppiCrossCorrFull_Norm_16u32f_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 16-bit unsigned image CrossCorrFull_Norm.

- NppStatus nppiCrossCorrFull_Norm_16u32f_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Three-channel 16-bit unsigned image CrossCorrFull_Norm.

- NppStatus nppiCrossCorrFull_Norm_16u32f_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 16-bit unsigned image CrossCorrFull_Norm.

- NppStatus nppiCrossCorrFull_Norm_16u32f_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 16-bit unsigned image CrossCorrFull_Norm ignoring alpha channel.

7.37.1 Detailed Description

Primitives for computing the normalized cross correlation between two images with full mode.

7.37.2 Function Documentation

7.37.2.1 NppStatus nppiCrossCorrFull_Norm_16u32f_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 16-bit unsigned image CrossCorrFull_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.37.2.2 NppStatus nppiCrossCorrFull_Norm_16u32f_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 16-bit unsigned image CrossCorrFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.37.2.3 NppStatus nppiCrossCorrFull_Norm_16u32f_C3R (const Npp16u * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f * *pDst*, int *nDstStep*)

Three-channel 16-bit unsigned image CrossCorrFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.37.2.4 NppStatus nppiCrossCorrFull_Norm_16u32f_C4R (const Npp16u * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f * *pDst*, int *nDstStep*)

Four-channel 16-bit unsigned image CrossCorrFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.37.2.5 NppStatus nppiCrossCorrFull_Norm_32f_AC4R (const Npp32f * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f * *pDst*, int *nDstStep*)

Four-channel 32-bit floating point image CrossCorrFull_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.37.2.6 NppStatus nppiCrossCorrFull_Norm_32f_C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 32-bit floating point image CrossCorrFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.37.2.7 NppStatus nppiCrossCorrFull_Norm_32f_C3R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Three-channel 32-bit floating point image CrossCorrFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.37.2.8 NppStatus nppiCrossCorrFull_Norm_32f_C4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 32-bit floating point image CrossCorrFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.37.2.9 NppStatus nppiCrossCorrFull_Norm_8s32f_AC4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 8-bit signed image CrossCorrFull_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.37.2.10 NppStatus nppiCrossCorrFull_Norm_8s32f_C1R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 8-bit signed image CrossCorrFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.37.2.11 NppStatus nppiCrossCorrFull_Norm_8s32f_C3R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Three-channel 8-bit signed image CrossCorrFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.37.2.12 NppStatus nppiCrossCorrFull_Norm_8s32f_C4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 8-bit signed image CrossCorrFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.37.2.13 NppStatus nppiCrossCorrFull_Norm_8u32f_AC4R (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f $*$ *pDst*, int *nDstStep*)

Four-channel 8-bit unsigned image CrossCorrFull_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.37.2.14 NppStatus nppiCrossCorrFull_Norm_8u32f_C1R (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f $*$ *pDst*, int *nDstStep*)

One-channel 8-bit unsigned image CrossCorrFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.37.2.15 NppStatus nppiCrossCorrFull_Norm_8u32f_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Three-channel 8-bit unsigned image CrossCorrFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.37.2.16 NppStatus nppiCrossCorrFull_Norm_8u32f_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 8-bit unsigned image CrossCorrFull_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.37.2.17 NppStatus nppiCrossCorrFull_Norm_8u_AC4RSfs (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u $*$ *pDst*, int *nDstStep*, int *nScaleFactor*)

Four-channel 8-bit unsigned image CrossCorrFull_Norm ignoring alpha channel, scaled by $2^(- nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.37.2.18 NppStatus nppiCrossCorrFull_Norm_8u_C1RSfs (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u $*$ *pDst*, int *nDstStep*, int *nScaleFactor*)

One-channel 8-bit unsigned image CrossCorrFull_Norm, scaled by $2^(- nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.37.2.19 NppStatus nppiCrossCorrFull_Norm_8u_C3RSfs (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u $*$ *pDst*, int *nDstStep*, int *nScaleFactor*)

Three-channel 8-bit unsigned image CrossCorrFull_Norm, scaled by $2^(-nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.37.2.20 NppStatus nppiCrossCorrFull_Norm_8u_C4RSfs (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u $*$ *pDst*, int *nDstStep*, int *nScaleFactor*)

Four-channel 8-bit unsigned image CrossCorrFull_Norm, scaled by $2^(-nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.38 CrossCorrSame_Norm

Primitives for computing the normalized cross correlation between two images with same mode.

CrossCorrSame_Norm

The functions compute the $\rho_{st}(c, r)$ in General Introduction with same mode (see Categorizations).

- NppStatus nppiCrossCorrSame_Norm_8u_C1RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor)

  One-channel 8-bit unsigned image CrossCorrSame_Norm, scaled by $2^(- nScaleFactor)$.

- NppStatus nppiCrossCorrSame_Norm_8u_C3RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor)

  Three-channel 8-bit unsigned image CrossCorrSame_Norm, scaled by $2^(- nScaleFactor)$.

- NppStatus nppiCrossCorrSame_Norm_8u_C4RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor)

  Four-channel 8-bit unsigned image CrossCorrSame_Norm, scaled by $2^(- nScaleFactor)$.

- NppStatus nppiCrossCorrSame_Norm_8u_AC4RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor)

  Four-channel 8-bit unsigned image CrossCorrSame_Norm ignoring alpha channel, scaled by $2^(- nScaleFactor)$.

- NppStatus nppiCrossCorrSame_Norm_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 32-bit floating point image CrossCorrSame_Norm.

- NppStatus nppiCrossCorrSame_Norm_32f_C3R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Three-channel 32-bit floating point image CrossCorrSame_Norm.

- NppStatus nppiCrossCorrSame_Norm_32f_C4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 32-bit floating point image CrossCorrSame_Norm.

- NppStatus nppiCrossCorrSame_Norm_32f_AC4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 32-bit floating point image CrossCorrSame_Norm ignoring alpha channel.

- NppStatus nppiCrossCorrSame_Norm_8u32f_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 8-bit unsigned image CrossCorrSame_Norm.

- NppStatus nppiCrossCorrSame_Norm_8u32f_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

Three-channel 8-bit unsigned image CrossCorrSame_Norm.

- NppStatus nppiCrossCorrSame_Norm_8u32f_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit unsigned image CrossCorrSame_Norm.

- NppStatus nppiCrossCorrSame_Norm_8u32f_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit unsigned image CrossCorrSame_Norm ignoring alpha channel.

- NppStatus nppiCrossCorrSame_Norm_8s32f_C1R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 8-bit signed image CrossCorrSame_Norm.

- NppStatus nppiCrossCorrSame_Norm_8s32f_C3R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Three-channel 8-bit signed image CrossCorrSame_Norm.

- NppStatus nppiCrossCorrSame_Norm_8s32f_C4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit signed image CrossCorrSame_Norm.

- NppStatus nppiCrossCorrSame_Norm_8s32f_AC4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit signed image CrossCorrSame_Norm ignoring alpha channel.

- NppStatus nppiCrossCorrSame_Norm_16u32f_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 16-bit unsigned image CrossCorrSame_Norm.

- NppStatus nppiCrossCorrSame_Norm_16u32f_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Three-channel 16-bit unsigned image CrossCorrSame_Norm.

- NppStatus nppiCrossCorrSame_Norm_16u32f_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 16-bit unsigned image CrossCorrSame_Norm.

- NppStatus nppiCrossCorrSame_Norm_16u32f_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 16-bit unsigned image CrossCorrSame_Norm ignoring alpha channel.

7.38.1 Detailed Description

Primitives for computing the normalized cross correlation between two images with same mode.

7.38.2 Function Documentation

7.38.2.1 NppStatus nppiCrossCorrSame_Norm_16u32f_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 16-bit unsigned image CrossCorrSame_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.38.2.2 NppStatus nppiCrossCorrSame_Norm_16u32f_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 16-bit unsigned image CrossCorrSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.38.2.3 NppStatus nppiCrossCorrSame_Norm_16u32f_C3R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Three-channel 16-bit unsigned image CrossCorrSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.38.2.4 NppStatus nppiCrossCorrSame_Norm_16u32f_C4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 16-bit unsigned image CrossCorrSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.38.2.5 NppStatus nppiCrossCorrSame_Norm_32f_AC4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 32-bit floating point image CrossCorrSame_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.38.2.6 NppStatus nppiCrossCorrSame_Norm_32f_C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 32-bit floating point image CrossCorrSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.38.2.7 NppStatus nppiCrossCorrSame_Norm_32f_C3R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Three-channel 32-bit floating point image CrossCorrSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.38.2.8 NppStatus nppiCrossCorrSame_Norm_32f_C4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 32-bit floating point image CrossCorrSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.38.2.9 NppStatus nppiCrossCorrSame_Norm_8s32f_AC4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 8-bit signed image CrossCorrSame_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.38.2.10 NppStatus nppiCrossCorrSame_Norm_8s32f_C1R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 8-bit signed image CrossCorrSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.38.2.11 NppStatus nppiCrossCorrSame_Norm_8s32f_C3R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Three-channel 8-bit signed image CrossCorrSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.38.2.12 NppStatus nppiCrossCorrSame_Norm_8s32f_C4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 8-bit signed image CrossCorrSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.38.2.13 NppStatus nppiCrossCorrSame_Norm_8u32f_AC4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 8-bit unsigned image CrossCorrSame_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.38.2.14 NppStatus nppiCrossCorrSame_Norm_8u32f_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 8-bit unsigned image CrossCorrSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.38.2.15 NppStatus nppiCrossCorrSame_Norm_8u32f_C3R (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f $*$ *pDst*, int *nDstStep*)

Three-channel 8-bit unsigned image CrossCorrSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.38.2.16 NppStatus nppiCrossCorrSame_Norm_8u32f_C4R (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f $*$ *pDst*, int *nDstStep*)

Four-channel 8-bit unsigned image CrossCorrSame_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.38.2.17 NppStatus nppiCrossCorrSame_Norm_8u_AC4RSfs (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u $*$ *pDst*, int *nDstStep*, int *nScaleFactor*)

Four-channel 8-bit unsigned image CrossCorrSame_Norm ignoring alpha channel, scaled by $2^(- nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.38.2.18 NppStatus nppiCrossCorrSame_Norm_8u_C1RSfs (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u $*$ *pDst*, int *nDstStep*, int *nScaleFactor*)

One-channel 8-bit unsigned image CrossCorrSame_Norm, scaled by $2^(- nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.38.2.19 NppStatus nppiCrossCorrSame_Norm_8u_C3RSfs (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u $*$ *pDst*, int *nDstStep*, int *nScaleFactor*)

Three-channel 8-bit unsigned image CrossCorrSame_Norm, scaled by $2^(- nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.38.2.20 NppStatus nppiCrossCorrSame_Norm_8u_C4RSfs (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u $*$ *pDst*, int *nDstStep*, int *nScaleFactor*)

Four-channel 8-bit unsigned image CrossCorrSame_Norm, scaled by $2^(- nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.39 CrossCorrValid_Norm

Primitives for computing the normalized cross correlation between two images with valid mode.

CrossCorrValid_Norm

The functions compute the $\rho_{st}(c, r)$ in General Introduction with valid mode (see Categorizations).

- NppStatus nppiCrossCorrValid_Norm_8u_C1RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor)

  One-channel 8-bit unsigned image CrossCorrValid_Norm, scaled by $2^(- nScaleFactor)$.

- NppStatus nppiCrossCorrValid_Norm_8u_C3RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor)

  Three-channel 8-bit unsigned image CrossCorrValid_Norm, scaled by $2^(- nScaleFactor)$.

- NppStatus nppiCrossCorrValid_Norm_8u_C4RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor)

  Four-channel 8-bit unsigned image CrossCorrValid_Norm, scaled by $2^(- nScaleFactor)$.

- NppStatus nppiCrossCorrValid_Norm_8u_AC4RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor)

  Four-channel 8-bit unsigned image CrossCorrValid_Norm ignoring alpha channel, scaled by $2^(- nScaleFactor)$.

- NppStatus nppiCrossCorrValid_Norm_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 32-bit floating point image CrossCorrValid_Norm.

- NppStatus nppiCrossCorrValid_Norm_32f_C3R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Three-channel 32-bit floating point image CrossCorrValid_Norm.

- NppStatus nppiCrossCorrValid_Norm_32f_C4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 32-bit floating point image CrossCorrValid_Norm.

- NppStatus nppiCrossCorrValid_Norm_32f_AC4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 32-bit floating point image CrossCorrValid_Norm ignoring alpha channel.

- NppStatus nppiCrossCorrValid_Norm_8u32f_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 8-bit unsigned image CrossCorrValid_Norm.

- NppStatus nppiCrossCorrValid_Norm_8u32f_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

Three-channel 8-bit unsigned image CrossCorrValid_Norm.

- NppStatus nppiCrossCorrValid_Norm_8u32f_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit unsigned image CrossCorrValid_Norm.

- NppStatus nppiCrossCorrValid_Norm_8u32f_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit unsigned image CrossCorrValid_Norm ignoring alpha channel.

- NppStatus nppiCrossCorrValid_Norm_8s32f_C1R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 8-bit signed image CrossCorrValid_Norm.

- NppStatus nppiCrossCorrValid_Norm_8s32f_C3R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Three-channel 8-bit signed image CrossCorrValid_Norm.

- NppStatus nppiCrossCorrValid_Norm_8s32f_C4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit signed image CrossCorrValid_Norm.

- NppStatus nppiCrossCorrValid_Norm_8s32f_AC4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 8-bit signed image CrossCorrValid_Norm ignoring alpha channel.

- NppStatus nppiCrossCorrValid_Norm_16u32f_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 16-bit unsigned image CrossCorrValid_Norm.

- NppStatus nppiCrossCorrValid_Norm_16u32f_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Three-channel 16-bit unsigned image CrossCorrValid_Norm.

- NppStatus nppiCrossCorrValid_Norm_16u32f_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 16-bit unsigned image CrossCorrValid_Norm.

- NppStatus nppiCrossCorrValid_Norm_16u32f_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  Four-channel 16-bit unsigned image CrossCorrValid_Norm ignoring alpha channel.

7.39.1 Detailed Description

Primitives for computing the normalized cross correlation between two images with valid mode.

7.39.2 Function Documentation

7.39.2.1 NppStatus nppiCrossCorrValid_Norm_16u32f_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 16-bit unsigned image CrossCorrValid_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.39.2.2 NppStatus nppiCrossCorrValid_Norm_16u32f_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 16-bit unsigned image CrossCorrValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.39.2.3 NppStatus nppiCrossCorrValid_Norm_16u32f_C3R (const Npp16u * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f * *pDst*, int *nDstStep*)

Three-channel 16-bit unsigned image CrossCorrValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.39.2.4 NppStatus nppiCrossCorrValid_Norm_16u32f_C4R (const Npp16u * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f * *pDst*, int *nDstStep*)

Four-channel 16-bit unsigned image CrossCorrValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.39.2.5 NppStatus nppiCrossCorrValid_Norm_32f_AC4R (const Npp32f * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f * *pDst*, int *nDstStep*)

Four-channel 32-bit floating point image CrossCorrValid_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.39.2.6 NppStatus nppiCrossCorrValid_Norm_32f_C1R (const Npp32f * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f * *pDst*, int *nDstStep*)

One-channel 32-bit floating point image CrossCorrValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.39.2.7 NppStatus nppiCrossCorrValid_Norm_32f_C3R (const Npp32f * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f * *pDst*, int *nDstStep*)

Three-channel 32-bit floating point image CrossCorrValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.39.2.8 NppStatus nppiCrossCorrValid_Norm_32f_C4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 32-bit floating point image CrossCorrValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.39.2.9 NppStatus nppiCrossCorrValid_Norm_8s32f_AC4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 8-bit signed image CrossCorrValid_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.39.2.10 NppStatus nppiCrossCorrValid_Norm_8s32f_C1R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 8-bit signed image CrossCorrValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.39.2.11 NppStatus nppiCrossCorrValid_Norm_8s32f_C3R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Three-channel 8-bit signed image CrossCorrValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.39.2.12 NppStatus nppiCrossCorrValid_Norm_8s32f_C4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 8-bit signed image CrossCorrValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.39.2.13 NppStatus nppiCrossCorrValid_Norm_8u32f_AC4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 8-bit unsigned image CrossCorrValid_Norm ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.39.2.14 NppStatus nppiCrossCorrValid_Norm_8u32f_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 8-bit unsigned image CrossCorrValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.39.2.15 NppStatus nppiCrossCorrValid_Norm_8u32f_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Three-channel 8-bit unsigned image CrossCorrValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.39.2.16 NppStatus nppiCrossCorrValid_Norm_8u32f_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

Four-channel 8-bit unsigned image CrossCorrValid_Norm.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.39.2.17 NppStatus nppiCrossCorrValid_Norm_8u_AC4RSfs (const Npp8u * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u * *pDst*, int *nDstStep*, int *nScaleFactor*)

Four-channel 8-bit unsigned image CrossCorrValid_Norm ignoring alpha channel, scaled by $2^(- nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.39.2.18 NppStatus nppiCrossCorrValid_Norm_8u_C1RSfs (const Npp8u * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u * *pDst*, int *nDstStep*, int *nScaleFactor*)

One-channel 8-bit unsigned image CrossCorrValid_Norm, scaled by $2^(- nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.39.2.19 NppStatus nppiCrossCorrValid_Norm_8u_C3RSfs (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u $*$ *pDst*, int *nDstStep*, int *nScaleFactor*)

Three-channel 8-bit unsigned image CrossCorrValid_Norm, scaled by $2^(- nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.39.2.20 NppStatus nppiCrossCorrValid_Norm_8u_C4RSfs (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u $*$ *pDst*, int *nDstStep*, int *nScaleFactor*)

Four-channel 8-bit unsigned image CrossCorrValid_Norm, scaled by $2^(- nScaleFactor)$.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.40 CrossCorrValid

Primitives for computing the cross correlation between two images with valid mode.

CrossCorrValid

The functions compute the $R_{st}(c, r)$ in General Introduction with valid mode (see Categorizations).

- NppStatus nppiCrossCorrValid_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 32-bit floating point images CrossCorrValid.

- NppStatus nppiCrossCorrValid_8u32f_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 8-bit unsigned images CrossCorrValid.

- NppStatus nppiCrossCorrValid_8s32f_C1R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 8-bit signed images CrossCorrValid.

- NppStatus nppiCrossCorrValid_16u32f_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep)

  One-channel 16-bit unsigned images CrossCorrValid.

7.40.1 Detailed Description

Primitives for computing the cross correlation between two images with valid mode.

7.40.2 Function Documentation

7.40.2.1 NppStatus nppiCrossCorrValid_16u32f_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 16-bit unsigned images CrossCorrValid.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.40.2.2 NppStatus nppiCrossCorrValid_32f_C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 32-bit floating point images CrossCorrValid.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.40.2.3 NppStatus nppiCrossCorrValid_8s32f_C1R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 8-bit signed images CrossCorrValid.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.40.2.4 NppStatus nppiCrossCorrValid_8u32f_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*)

One-channel 8-bit unsigned images CrossCorrValid.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41 CrossCorrFull_NormLevel

Primitives for computing the normalized cross correlation coefficient between two images with full mode.

CrossCorrFull_NormLevel

The functions compute the $\gamma_{st}(c, r)$ in General Introduction with full mode (see Categorizations).

The functions require additional scratch buffer for computations.

- NppStatus nppiCrossCorrFull_NormLevel_8u_C1RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image CrossCorrFull_NormLevel.

- NppStatus nppiCrossCorrFull_NormLevel_8u_C3RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor, Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image CrossCorrFull_NormLevel.

- NppStatus nppiCrossCorrFull_NormLevel_8u_C4RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image CrossCorrFull_NormLevel.

- NppStatus nppiCrossCorrFull_NormLevel_8u_AC4RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image CrossCorrFull_NormLevel ignoring alpha channel.

- NppStatus nppiCrossCorrFull_NormLevel_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point image CrossCorrFull_NormLevel.

- NppStatus nppiCrossCorrFull_NormLevel_32f_C3R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point image CrossCorrFull_NormLevel.

- NppStatus nppiCrossCorrFull_NormLevel_32f_C4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image CrossCorrFull_NormLevel.

- NppStatus nppiCrossCorrFull_NormLevel_32f_AC4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image CrossCorrFull_NormLevel ignoring alpha channel.

- NppStatus nppiCrossCorrFull_NormLevel_8u32f_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image CrossCorrFull_NormLevel.

- NppStatus nppiCrossCorrFull_NormLevel_8u32f_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image CrossCorrFull_NormLevel.

- NppStatus nppiCrossCorrFull_NormLevel_8u32f_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image CrossCorrFull_NormLevel.

- NppStatus nppiCrossCorrFull_NormLevel_8u32f_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image CrossCorrFull_NormLevel ignoring alpha channel.

- NppStatus nppiCrossCorrFull_NormLevel_8s32f_C1R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit signed image CrossCorrFull_NormLevel.

- NppStatus nppiCrossCorrFull_NormLevel_8s32f_C3R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit signed image CrossCorrFull_NormLevel.

- NppStatus nppiCrossCorrFull_NormLevel_8s32f_C4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit signed image CrossCorrFull_NormLevel.

- NppStatus nppiCrossCorrFull_NormLevel_8s32f_AC4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit signed image CrossCorrFull_NormLevel ignoring alpha channel.

- NppStatus nppiCrossCorrFull_NormLevel_16u32f_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit unsigned image CrossCorrFull_NormLevel.

- NppStatus nppiCrossCorrFull_NormLevel_16u32f_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit unsigned image CrossCorrFull_NormLevel.

- NppStatus nppiCrossCorrFull_NormLevel_16u32f_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image CrossCorrFull_NormLevel.

- NppStatus nppiCrossCorrFull_NormLevel_16u32f_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image CrossCorrFull_NormLevel ignoring alpha channel.

FullNormLevelGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the CrossCorrFull_NormLevel primitives.

- NppStatus nppiFullNormLevelGetBufferHostSize_8u_C1RSfs (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8u_C1RSfs.

- NppStatus nppiFullNormLevelGetBufferHostSize_8u_C3RSfs (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8u_C3RSfs.

- NppStatus nppiFullNormLevelGetBufferHostSize_8u_C4RSfs (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8u_C4RSfs.

- NppStatus nppiFullNormLevelGetBufferHostSize_8u_AC4RSfs (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8u_AC4RSfs.

- NppStatus nppiFullNormLevelGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_32f_C1R.

- NppStatus nppiFullNormLevelGetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_32f_C3R.

- NppStatus nppiFullNormLevelGetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_32f_C4R.

- NppStatus nppiFullNormLevelGetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_32f_AC4R.

- NppStatus nppiFullNormLevelGetBufferHostSize_8u32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8u32f_C1R.

- NppStatus nppiFullNormLevelGetBufferHostSize_8u32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8u32f_C3R.

- NppStatus nppiFullNormLevelGetBufferHostSize_8u32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8u32f_C4R.

- NppStatus nppiFullNormLevelGetBufferHostSize_8u32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8u32f_AC4R.

- NppStatus nppiFullNormLevelGetBufferHostSize_8s32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8s32f_C1R.

- NppStatus nppiFullNormLevelGetBufferHostSize_8s32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8s32f_C3R.

- NppStatus nppiFullNormLevelGetBufferHostSize_8s32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8s32f_C4R.

- NppStatus nppiFullNormLevelGetBufferHostSize_8s32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8s32f_AC4R.

- NppStatus nppiFullNormLevelGetBufferHostSize_16u32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_16u32f_C1R.

- NppStatus nppiFullNormLevelGetBufferHostSize_16u32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_16u32f_C3R.

- NppStatus nppiFullNormLevelGetBufferHostSize_16u32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_16u32f_C4R.

- NppStatus nppiFullNormLevelGetBufferHostSize_16u32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_16u32f_AC4R.

7.41.1 Detailed Description

Primitives for computing the normalized cross correlation coefficient between two images with full mode.

7.41.2 Function Documentation

7.41.2.1 NppStatus nppiCrossCorrFull_NormLevel_16u32f_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image CrossCorrFull_NormLevel ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiFullNormLevelGetBufferHostSize_16u32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41.2.2 NppStatus nppiCrossCorrFull_NormLevel_16u32f_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit unsigned image CrossCorrFull_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiFullNormLevelGetBufferHostSize_16u32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41.2.3 NppStatus nppiCrossCorrFull_NormLevel_16u32f_C3R (const Npp16u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f $*$ *pDst*, int *nDstStep*, Npp8u $*$ *pDeviceBuffer*)

Three-channel 16-bit unsigned image CrossCorrFull_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiFullNormLevelGetBufferHostSize_16u32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41.2.4 NppStatus nppiCrossCorrFull_NormLevel_16u32f_C4R (const Npp16u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f $*$ *pDst*, int *nDstStep*, Npp8u $*$ *pDeviceBuffer*)

Four-channel 16-bit unsigned image CrossCorrFull_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiFullNormLevelGetBufferHostSize_16u32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41.2.5 NppStatus nppiCrossCorrFull_NormLevel_32f_AC4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image CrossCorrFull_NormLevel ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiFullNormLevelGetBufferHostSize_32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41.2.6 NppStatus nppiCrossCorrFull_NormLevel_32f_C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit floating point image CrossCorrFull_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiFullNormLevelGetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41.2.7 NppStatus nppiCrossCorrFull_NormLevel_32f_C3R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point image CrossCorrFull_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiFullNormLevelGetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41.2.8 NppStatus nppiCrossCorrFull_NormLevel_32f_C4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image CrossCorrFull_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiFullNormLevelGetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41.2.9 NppStatus nppiCrossCorrFull_NormLevel_8s32f_AC4R (const Npp8s * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f * *pDst*, int *nDstStep*, Npp8u * *pDeviceBuffer*)

Four-channel 8-bit signed image CrossCorrFull_NormLevel ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiFullNormLevelGetBufferHostSize_8s32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41.2.10 NppStatus nppiCrossCorrFull_NormLevel_8s32f_C1R (const Npp8s * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f * *pDst*, int *nDstStep*, Npp8u * *pDeviceBuffer*)

One-channel 8-bit signed image CrossCorrFull_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiFullNormLevelGetBufferHostSize_8s32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41.2.11 NppStatus nppiCrossCorrFull_NormLevel_8s32f_C3R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit signed image CrossCorrFull_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiFullNormLevelGetBufferHostSize_8s32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41.2.12 NppStatus nppiCrossCorrFull_NormLevel_8s32f_C4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit signed image CrossCorrFull_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiFullNormLevelGetBufferHostSize_8s32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41.2.13 NppStatus nppiCrossCorrFull_NormLevel_8u32f_AC4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image CrossCorrFull_NormLevel ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiFullNormLevelGetBufferHostSize_8u32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41.2.14 NppStatus nppiCrossCorrFull_NormLevel_8u32f_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit unsigned image CrossCorrFull_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiFullNormLevelGetBufferHostSize_8u32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41.2.15 NppStatus nppiCrossCorrFull_NormLevel_8u32f_C3R (const Npp8u * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f * *pDst*, int *nDstStep*, Npp8u * *pDeviceBuffer*)

Three-channel 8-bit unsigned image CrossCorrFull_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiFullNormLevelGetBufferHostSize_8u32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41.2.16 NppStatus nppiCrossCorrFull_NormLevel_8u32f_C4R (const Npp8u * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f * *pDst*, int *nDstStep*, Npp8u * *pDeviceBuffer*)

Four-channel 8-bit unsigned image CrossCorrFull_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiFullNormLevelGetBufferHostSize_8u32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41.2.17 NppStatus nppiCrossCorrFull_NormLevel_8u_AC4RSfs (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u $*$ *pDst*, int *nDstStep*, int *nScaleFactor*, Npp8u $*$ *pDeviceBuffer*)

Four-channel 8-bit unsigned image CrossCorrFull_NormLevel ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiFullNormLevelGetBufferHostSize_8u_AC4RSfs to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41.2.18 NppStatus nppiCrossCorrFull_NormLevel_8u_C1RSfs (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u $*$ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u $*$ *pDst*, int *nDstStep*, int *nScaleFactor*, Npp8u $*$ *pDeviceBuffer*)

One-channel 8-bit unsigned image CrossCorrFull_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiFullNormLevelGetBufferHostSize_8u_C1RSfs to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41.2.19 NppStatus nppiCrossCorrFull_NormLevel_8u_C3RSfs (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u ∗ *pDst*, int *nDstStep*, int *nScaleFactor*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image CrossCorrFull_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiFullNormLevelGetBufferHostSize_8u_C3RSfs to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41.2.20 NppStatus nppiCrossCorrFull_NormLevel_8u_C4RSfs (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u ∗ *pDst*, int *nDstStep*, int *nScaleFactor*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image CrossCorrFull_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiFullNormLevelGetBufferHostSize_8u_C4RSfs to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.41.2.21 NppStatus nppiFullNormLevelGetBufferHostSize_16u32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_16u32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.41.2.22 NppStatus nppiFullNormLevelGetBufferHostSize_16u32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_16u32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.41.2.23 NppStatus nppiFullNormLevelGetBufferHostSize_16u32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_16u32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.41.2.24 NppStatus nppiFullNormLevelGetBufferHostSize_16u32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_16u32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.41.2.25 NppStatus nppiFullNormLevelGetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.41.2.26 NppStatus nppiFullNormLevelGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.41.2.27 NppStatus nppiFullNormLevelGetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.41.2.28 NppStatus nppiFullNormLevelGetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.41.2.29 NppStatus nppiFullNormLevelGetBufferHostSize_8s32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8s32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.41.2.30 NppStatus nppiFullNormLevelGetBufferHostSize_8s32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8s32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.41.2.31 NppStatus nppiFullNormLevelGetBufferHostSize_8s32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8s32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.41.2.32 NppStatus nppiFullNormLevelGetBufferHostSize_8s32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8s32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.41.2.33 NppStatus nppiFullNormLevelGetBufferHostSize_8u32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8u32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.41.2.34 NppStatus nppiFullNormLevelGetBufferHostSize_8u32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8u32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.41.2.35 NppStatus nppiFullNormLevelGetBufferHostSize_8u32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8u32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.41.2.36 NppStatus nppiFullNormLevelGetBufferHostSize_8u32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8u32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.41.2.37 NppStatus nppiFullNormLevelGetBufferHostSize_8u_AC4RSfs (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8u_AC4RSfs.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.41.2.38 NppStatus nppiFullNormLevelGetBufferHostSize_8u_C1RSfs (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8u_C1RSfs.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.41.2.39 NppStatus nppiFullNormLevelGetBufferHostSize_8u_C3RSfs (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8u_C3RSfs.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.41.2.40 NppStatus nppiFullNormLevelGetBufferHostSize_8u_C4RSfs (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrFull_NormLevel_8u_C4RSfs.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.42 CrossCorrSame_NormLevel

Primitives for computing the normalized cross correlation coefficient between two images with same mode.

CrossCorrSame_NormLevel

The functions compute the $\gamma_{st}(c, r)$ in General Introduction with same mode (see Categorizations).

The functions require additional scratch buffer for computations.

- NppStatus nppiCrossCorrSame_NormLevel_8u_C1RSfs (const Npp8u *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u *pDst, int nDstStep, int nScaleFactor, Npp8u *pDeviceBuffer)

  One-channel 8-bit unsigned image CrossCorrSame_NormLevel.

- NppStatus nppiCrossCorrSame_NormLevel_8u_C3RSfs (const Npp8u *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u *pDst, int nDstStep, int nScaleFactor, Npp8u *pDeviceBuffer)

  Three-channel 8-bit unsigned image CrossCorrSame_NormLevel.

- NppStatus nppiCrossCorrSame_NormLevel_8u_C4RSfs (const Npp8u *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u *pDst, int nDstStep, int nScaleFactor, Npp8u *pDeviceBuffer)

  Four-channel 8-bit unsigned image CrossCorrSame_NormLevel.

- NppStatus nppiCrossCorrSame_NormLevel_8u_AC4RSfs (const Npp8u *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u *pDst, int nDstStep, int nScaleFactor, Npp8u *pDeviceBuffer)

  Four-channel 8-bit unsigned image CrossCorrSame_NormLevel ignoring alpha channel.

- NppStatus nppiCrossCorrSame_NormLevel_32f_C1R (const Npp32f *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f *pDst, int nDstStep, Npp8u *pDeviceBuffer)

  One-channel 32-bit floating point image CrossCorrSame_NormLevel.

- NppStatus nppiCrossCorrSame_NormLevel_32f_C3R (const Npp32f *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f *pDst, int nDstStep, Npp8u *pDeviceBuffer)

  Three-channel 32-bit floating point image CrossCorrSame_NormLevel.

- NppStatus nppiCrossCorrSame_NormLevel_32f_C4R (const Npp32f *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f *pDst, int nDstStep, Npp8u *pDeviceBuffer)

  Four-channel 32-bit floating point image CrossCorrSame_NormLevel.

- NppStatus nppiCrossCorrSame_NormLevel_32f_AC4R (const Npp32f *pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f *pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f *pDst, int nDstStep, Npp8u *pDeviceBuffer)

  Four-channel 32-bit floating point image CrossCorrSame_NormLevel ignoring alpha channel.

- NppStatus nppiCrossCorrSame_NormLevel_8u32f_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image CrossCorrSame_NormLevel.

- NppStatus nppiCrossCorrSame_NormLevel_8u32f_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image CrossCorrSame_NormLevel.

- NppStatus nppiCrossCorrSame_NormLevel_8u32f_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image CrossCorrSame_NormLevel.

- NppStatus nppiCrossCorrSame_NormLevel_8u32f_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image CrossCorrSame_NormLevel ignoring alpha channel.

- NppStatus nppiCrossCorrSame_NormLevel_8s32f_C1R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit signed image CrossCorrSame_NormLevel.

- NppStatus nppiCrossCorrSame_NormLevel_8s32f_C3R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit signed image CrossCorrSame_NormLevel.

- NppStatus nppiCrossCorrSame_NormLevel_8s32f_C4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit signed image CrossCorrSame_NormLevel.

- NppStatus nppiCrossCorrSame_NormLevel_8s32f_AC4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit signed image CrossCorrSame_NormLevel ignoring alpha channel.

- NppStatus nppiCrossCorrSame_NormLevel_16u32f_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit unsigned image CrossCorrSame_NormLevel.

- NppStatus nppiCrossCorrSame_NormLevel_16u32f_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit unsigned image CrossCorrSame_NormLevel.

- NppStatus nppiCrossCorrSame_NormLevel_16u32f_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image CrossCorrSame_NormLevel.

- NppStatus nppiCrossCorrSame_NormLevel_16u32f_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image CrossCorrSame_NormLevel ignoring alpha channel.

SameNormLevelGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the CrossCorrSame_NormLevel primitives.

- NppStatus nppiSameNormLevelGetBufferHostSize_8u_C1RSfs (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8u_C1RSfs.

- NppStatus nppiSameNormLevelGetBufferHostSize_8u_C3RSfs (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8u_C3RSfs.

- NppStatus nppiSameNormLevelGetBufferHostSize_8u_C4RSfs (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8u_C4RSfs.

- NppStatus nppiSameNormLevelGetBufferHostSize_8u_AC4RSfs (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8u_AC4RSfs.

- NppStatus nppiSameNormLevelGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_32f_C1R.

- NppStatus nppiSameNormLevelGetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_32f_C3R.

- NppStatus nppiSameNormLevelGetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_32f_C4R.

- NppStatus nppiSameNormLevelGetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_32f_AC4R.

- NppStatus nppiSameNormLevelGetBufferHostSize_8u32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8u32f_C1R.

- NppStatus nppiSameNormLevelGetBufferHostSize_8u32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8u32f_C3R.

- NppStatus nppiSameNormLevelGetBufferHostSize_8u32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8u32f_C4R.

- NppStatus nppiSameNormLevelGetBufferHostSize_8u32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8u32f_AC4R.

- NppStatus nppiSameNormLevelGetBufferHostSize_8s32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8s32f_C1R.

- NppStatus nppiSameNormLevelGetBufferHostSize_8s32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8s32f_C3R.

- NppStatus nppiSameNormLevelGetBufferHostSize_8s32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8s32f_C4R.

- NppStatus nppiSameNormLevelGetBufferHostSize_8s32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8s32f_AC4R.

- NppStatus nppiSameNormLevelGetBufferHostSize_16u32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_16u32f_C1R.

- NppStatus nppiSameNormLevelGetBufferHostSize_16u32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_16u32f_C3R.

- NppStatus nppiSameNormLevelGetBufferHostSize_16u32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_16u32f_C4R.

- NppStatus nppiSameNormLevelGetBufferHostSize_16u32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_16u32f_AC4R.

7.42.1 Detailed Description

Primitives for computing the normalized cross correlation coefficient between two images with same mode.

7.42.2 Function Documentation

7.42.2.1 NppStatus nppiCrossCorrSame_NormLevel_16u32f_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image CrossCorrSame_NormLevel ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSameNormLevelGetBufferHostSize_16u32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.42.2.2 NppStatus nppiCrossCorrSame_NormLevel_16u32f_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit unsigned image CrossCorrSame_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSameNormLevelGetBufferHostSize_16u32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.42.2.3 NppStatus nppiCrossCorrSame_NormLevel_16u32f_C3R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit unsigned image CrossCorrSame_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSameNormLevelGetBufferHostSize_16u32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.42.2.4 NppStatus nppiCrossCorrSame_NormLevel_16u32f_C4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image CrossCorrSame_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSameNormLevelGetBufferHostSize_16u32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.42.2.5 NppStatus nppiCrossCorrSame_NormLevel_32f_AC4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image CrossCorrSame_NormLevel ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSameNormLevelGetBufferHostSize_32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.42.2.6 NppStatus nppiCrossCorrSame_NormLevel_32f_C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit floating point image CrossCorrSame_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSameNormLevelGetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.42.2.7 NppStatus nppiCrossCorrSame_NormLevel_32f_C3R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point image CrossCorrSame_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSameNormLevelGetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.42.2.8 NppStatus nppiCrossCorrSame_NormLevel_32f_C4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image CrossCorrSame_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSameNormLevelGetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.42.2.9 NppStatus nppiCrossCorrSame_NormLevel_8s32f_AC4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit signed image CrossCorrSame_NormLevel ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSameNormLevelGetBufferHostSize_8s32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.42.2.10 NppStatus nppiCrossCorrSame_NormLevel_8s32f_C1R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit signed image CrossCorrSame_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSameNormLevelGetBufferHostSize_8s32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.42.2.11 NppStatus nppiCrossCorrSame_NormLevel_8s32f_C3R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit signed image CrossCorrSame_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSameNormLevelGetBufferHostSize_8s32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.42.2.12 NppStatus nppiCrossCorrSame_NormLevel_8s32f_C4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit signed image CrossCorrSame_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSameNormLevelGetBufferHostSize_8s32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.42.2.13 NppStatus nppiCrossCorrSame_NormLevel_8u32f_AC4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image CrossCorrSame_NormLevel ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSameNormLevelGetBufferHostSize_8u32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.42.2.14 NppStatus nppiCrossCorrSame_NormLevel_8u32f_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit unsigned image CrossCorrSame_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSameNormLevelGetBufferHostSize_8u32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.42.2.15 NppStatus nppiCrossCorrSame_NormLevel_8u32f_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image CrossCorrSame_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSameNormLevelGetBufferHostSize_8u32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.42.2.16 NppStatus nppiCrossCorrSame_NormLevel_8u32f_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image CrossCorrSame_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSameNormLevelGetBufferHostSize_8u32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.42.2.17 NppStatus nppiCrossCorrSame_NormLevel_8u_AC4RSfs (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u ∗ *pDst*, int *nDstStep*, int *nScaleFactor*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image CrossCorrSame_NormLevel ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSameNormLevelGetBufferHostSize_8u_AC4RSfs to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.42.2.18 NppStatus nppiCrossCorrSame_NormLevel_8u_C1RSfs (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u ∗ *pDst*, int *nDstStep*, int *nScaleFactor*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit unsigned image CrossCorrSame_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSameNormLevelGetBufferHostSize_8u_C1RSfs to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.42.2.19 NppStatus nppiCrossCorrSame_NormLevel_8u_C3RSfs (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u ∗ *pDst*, int *nDstStep*, int *nScaleFactor*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image CrossCorrSame_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSameNormLevelGetBufferHostSize_8u_C3RSfs to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.42.2.20 NppStatus nppiCrossCorrSame_NormLevel_8u_C4RSfs (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u ∗ *pDst*, int *nDstStep*, int *nScaleFactor*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image CrossCorrSame_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiSameNormLevelGetBufferHostSize_8u_C4RSfs to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.42.2.21 NppStatus nppiSameNormLevelGetBufferHostSize_16u32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_16u32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.42.2.22 NppStatus nppiSameNormLevelGetBufferHostSize_16u32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_16u32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.42.2.23 NppStatus nppiSameNormLevelGetBufferHostSize_16u32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_16u32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.42.2.24 NppStatus nppiSameNormLevelGetBufferHostSize_16u32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_16u32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.42.2.25 NppStatus nppiSameNormLevelGetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.42.2.26 NppStatus nppiSameNormLevelGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.42.2.27 NppStatus nppiSameNormLevelGetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.42.2.28 NppStatus nppiSameNormLevelGetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.42.2.29 NppStatus nppiSameNormLevelGetBufferHostSize_8s32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8s32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.42.2.30 NppStatus nppiSameNormLevelGetBufferHostSize_8s32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8s32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.42.2.31 NppStatus nppiSameNormLevelGetBufferHostSize_8s32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8s32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.42.2.32 NppStatus nppiSameNormLevelGetBufferHostSize_8s32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8s32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.42.2.33 NppStatus nppiSameNormLevelGetBufferHostSize_8u32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8u32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.42.2.34 NppStatus nppiSameNormLevelGetBufferHostSize_8u32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8u32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.42.2.35 NppStatus nppiSameNormLevelGetBufferHostSize_8u32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8u32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.42.2.36 NppStatus nppiSameNormLevelGetBufferHostSize_8u32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8u32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.42.2.37 NppStatus nppiSameNormLevelGetBufferHostSize_8u_AC4RSfs (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8u_AC4RSfs.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.42.2.38 NppStatus nppiSameNormLevelGetBufferHostSize_8u_C1RSfs (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8u_C1RSfs.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.42.2.39 NppStatus nppiSameNormLevelGetBufferHostSize_8u_C3RSfs (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8u_C3RSfs.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.42.2.40 NppStatus nppiSameNormLevelGetBufferHostSize_8u_C4RSfs (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrSame_NormLevel_8u_C4RSfs.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.43 CrossCorrValid_NormLevel

Primitives for computing the normalized cross correlation coefficient between two images with valid mode.

CrossCorrValid_NormLevel

The functions compute the $\gamma_{st}(c, r)$ in General Introduction with valid mode (see Categorizations).

The functions require additional scratch buffer for computations.

- NppStatus nppiCrossCorrValid_NormLevel_8u_C1RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image CrossCorrValid_NormLevel.

- NppStatus nppiCrossCorrValid_NormLevel_8u_C3RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor, Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image CrossCorrValid_NormLevel.

- NppStatus nppiCrossCorrValid_NormLevel_8u_C4RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image CrossCorrValid_NormLevel.

- NppStatus nppiCrossCorrValid_NormLevel_8u_AC4RSfs (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp8u ∗pDst, int nDstStep, int nScaleFactor, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image CrossCorrValid_NormLevel ignoring alpha channel.

- NppStatus nppiCrossCorrValid_NormLevel_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point image CrossCorrValid_NormLevel.

- NppStatus nppiCrossCorrValid_NormLevel_32f_C3R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point image CrossCorrValid_NormLevel.

- NppStatus nppiCrossCorrValid_NormLevel_32f_C4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image CrossCorrValid_NormLevel.

- NppStatus nppiCrossCorrValid_NormLevel_32f_AC4R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp32f ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image CrossCorrValid_NormLevel ignoring alpha channel.

- NppStatus nppiCrossCorrValid_NormLevel_8u32f_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image CrossCorrValid_NormLevel.

- NppStatus nppiCrossCorrValid_NormLevel_8u32f_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image CrossCorrValid_NormLevel.

- NppStatus nppiCrossCorrValid_NormLevel_8u32f_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image CrossCorrValid_NormLevel.

- NppStatus nppiCrossCorrValid_NormLevel_8u32f_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image CrossCorrValid_NormLevel ignoring alpha channel.

- NppStatus nppiCrossCorrValid_NormLevel_8s32f_C1R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit signed image CrossCorrValid_NormLevel.

- NppStatus nppiCrossCorrValid_NormLevel_8s32f_C3R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit signed image CrossCorrValid_NormLevel.

- NppStatus nppiCrossCorrValid_NormLevel_8s32f_C4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit signed image CrossCorrValid_NormLevel.

- NppStatus nppiCrossCorrValid_NormLevel_8s32f_AC4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp8s ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit signed image CrossCorrValid_NormLevel ignoring alpha channel.

- NppStatus nppiCrossCorrValid_NormLevel_16u32f_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit unsigned image CrossCorrValid_NormLevel.

- NppStatus nppiCrossCorrValid_NormLevel_16u32f_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit unsigned image CrossCorrValid_NormLevel.

- NppStatus nppiCrossCorrValid_NormLevel_16u32f_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image CrossCorrValid_NormLevel.

- NppStatus nppiCrossCorrValid_NormLevel_16u32f_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcRoiSize, const Npp16u ∗pTpl, int nTplStep, NppiSize oTplRoiSize, Npp32f ∗pDst, int nDstStep, Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image CrossCorrValid_NormLevel ignoring alpha channel.

ValidNormLevelGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the CrossCorrValid_NormLevel primitives.

- NppStatus nppiValidNormLevelGetBufferHostSize_8u_C1RSfs (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8u_C1RSfs.

- NppStatus nppiValidNormLevelGetBufferHostSize_8u_C3RSfs (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8u_C3RSfs.

- NppStatus nppiValidNormLevelGetBufferHostSize_8u_C4RSfs (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8u_C4RSfs.

- NppStatus nppiValidNormLevelGetBufferHostSize_8u_AC4RSfs (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8u_AC4RSfs.

- NppStatus nppiValidNormLevelGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_32f_C1R.

- NppStatus nppiValidNormLevelGetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_32f_C3R.

- NppStatus nppiValidNormLevelGetBufferHostSize_32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_32f_C4R.

- NppStatus nppiValidNormLevelGetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_32f_AC4R.

- NppStatus nppiValidNormLevelGetBufferHostSize_8u32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8u32f_C1R.

- NppStatus nppiValidNormLevelGetBufferHostSize_8u32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8u32f_C3R.

- NppStatus nppiValidNormLevelGetBufferHostSize_8u32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8u32f_C4R.

- NppStatus nppiValidNormLevelGetBufferHostSize_8u32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8u32f_AC4R.

- NppStatus nppiValidNormLevelGetBufferHostSize_8s32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8s32f_C1R.

- NppStatus nppiValidNormLevelGetBufferHostSize_8s32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8s32f_C3R.

- NppStatus nppiValidNormLevelGetBufferHostSize_8s32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8s32f_C4R.

- NppStatus nppiValidNormLevelGetBufferHostSize_8s32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8s32f_AC4R.

- NppStatus nppiValidNormLevelGetBufferHostSize_16u32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_16u32f_C1R.

- NppStatus nppiValidNormLevelGetBufferHostSize_16u32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_16u32f_C3R.

- NppStatus nppiValidNormLevelGetBufferHostSize_16u32f_C4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_16u32f_C4R.

- NppStatus nppiValidNormLevelGetBufferHostSize_16u32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_16u32f_AC4R.

7.43.1 Detailed Description

Primitives for computing the normalized cross correlation coefficient between two images with valid mode.

7.43.2 Function Documentation

7.43.2.1 NppStatus nppiCrossCorrValid_NormLevel_16u32f_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image CrossCorrValid_NormLevel ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiValidNormLevelGetBufferHostSize_16u32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.43.2.2 NppStatus nppiCrossCorrValid_NormLevel_16u32f_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit unsigned image CrossCorrValid_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiValidNormLevelGetBufferHostSize_16u32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.43.2.3 NppStatus nppiCrossCorrValid_NormLevel_16u32f_C3R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit unsigned image CrossCorrValid_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiValidNormLevelGetBufferHostSize_16u32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.43.2.4 NppStatus nppiCrossCorrValid_NormLevel_16u32f_C4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp16u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image CrossCorrValid_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiValidNormLevelGetBufferHostSize_16u32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.43.2.5 NppStatus nppiCrossCorrValid_NormLevel_32f_AC4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image CrossCorrValid_NormLevel ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiValidNormLevelGetBufferHostSize_32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.43.2.6 NppStatus nppiCrossCorrValid_NormLevel_32f_C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit floating point image CrossCorrValid_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiValidNormLevelGetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.43.2.7 NppStatus nppiCrossCorrValid_NormLevel_32f_C3R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point image CrossCorrValid_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiValidNormLevelGetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.43.2.8 NppStatus nppiCrossCorrValid_NormLevel_32f_C4R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp32f ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image CrossCorrValid_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiValidNormLevelGetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.43.2.9 NppStatus nppiCrossCorrValid_NormLevel_8s32f_AC4R (const Npp8s * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f * *pDst*, int *nDstStep*, Npp8u * *pDeviceBuffer*)

Four-channel 8-bit signed image CrossCorrValid_NormLevel ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiValidNormLevelGetBufferHostSize_8s32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.43.2.10 NppStatus nppiCrossCorrValid_NormLevel_8s32f_C1R (const Npp8s * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f * *pDst*, int *nDstStep*, Npp8u * *pDeviceBuffer*)

One-channel 8-bit signed image CrossCorrValid_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiValidNormLevelGetBufferHostSize_8s32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.43.2.11 NppStatus nppiCrossCorrValid_NormLevel_8s32f_C3R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit signed image CrossCorrValid_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiValidNormLevelGetBufferHostSize_8s32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.43.2.12 NppStatus nppiCrossCorrValid_NormLevel_8s32f_C4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8s ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f ∗ *pDst*, int *nDstStep*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit signed image CrossCorrValid_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiValidNormLevelGetBufferHostSize_8s32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.43.2.13 NppStatus nppiCrossCorrValid_NormLevel_8u32f_AC4R (const Npp8u * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f * *pDst*, int *nDstStep*, Npp8u * *pDeviceBuffer*)

Four-channel 8-bit unsigned image CrossCorrValid_NormLevel ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiValidNormLevelGetBufferHostSize_8u32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.43.2.14 NppStatus nppiCrossCorrValid_NormLevel_8u32f_C1R (const Npp8u * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f * *pDst*, int *nDstStep*, Npp8u * *pDeviceBuffer*)

One-channel 8-bit unsigned image CrossCorrValid_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiValidNormLevelGetBufferHostSize_8u32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.43.2.15 NppStatus nppiCrossCorrValid_NormLevel_8u32f_C3R (const Npp8u * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f * *pDst*, int *nDstStep*, Npp8u * *pDeviceBuffer*)

Three-channel 8-bit unsigned image CrossCorrValid_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiValidNormLevelGetBufferHostSize_8u32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.43.2.16 NppStatus nppiCrossCorrValid_NormLevel_8u32f_C4R (const Npp8u * *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u * *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp32f * *pDst*, int *nDstStep*, Npp8u * *pDeviceBuffer*)

Four-channel 8-bit unsigned image CrossCorrValid_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiValidNormLevelGetBufferHostSize_8u32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.43.2.17 NppStatus nppiCrossCorrValid_NormLevel_8u_AC4RSfs (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u ∗ *pDst*, int *nDstStep*, int *nScaleFactor*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image CrossCorrValid_NormLevel ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiValidNormLevelGetBufferHostSize_8u_AC4RSfs to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.43.2.18 NppStatus nppiCrossCorrValid_NormLevel_8u_C1RSfs (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u ∗ *pDst*, int *nDstStep*, int *nScaleFactor*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit unsigned image CrossCorrValid_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiValidNormLevelGetBufferHostSize_8u_C1RSfs to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.43.2.19 NppStatus nppiCrossCorrValid_NormLevel_8u_C3RSfs (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u ∗ *pDst*, int *nDstStep*, int *nScaleFactor*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image CrossCorrValid_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiValidNormLevelGetBufferHostSize_8u_C3RSfs to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.43.2.20 NppStatus nppiCrossCorrValid_NormLevel_8u_C4RSfs (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcRoiSize*, const Npp8u ∗ *pTpl*, int *nTplStep*, NppiSize *oTplRoiSize*, Npp8u ∗ *pDst*, int *nDstStep*, int *nScaleFactor*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image CrossCorrValid_NormLevel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcRoiSize Region-of-Interest (ROI).

pTpl Pointer to the template image.

nTplStep Number of bytes between successive rows in the template image.

oTplRoiSize Region-of-Interest (ROI).

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

nScaleFactor Integer Result Scaling.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiValidNormLevelGetBufferHostSize_8u_C4RSfs to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.43.2.21 NppStatus nppiValidNormLevelGetBufferHostSize_16u32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_16u32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.43.2.22 NppStatus nppiValidNormLevelGetBufferHostSize_16u32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_16u32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.43.2.23 NppStatus nppiValidNormLevelGetBufferHostSize_16u32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_16u32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.43.2.24 NppStatus nppiValidNormLevelGetBufferHostSize_16u32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_16u32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.43.2.25 NppStatus nppiValidNormLevelGetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.43.2.26 NppStatus nppiValidNormLevelGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.43.2.27 NppStatus nppiValidNormLevelGetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.43.2.28 NppStatus nppiValidNormLevelGetBufferHostSize_32f_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.43.2.29 NppStatus nppiValidNormLevelGetBufferHostSize_8s32f_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8s32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.43.2.30 NppStatus nppiValidNormLevelGetBufferHostSize_8s32f_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8s32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.43.2.31 NppStatus nppiValidNormLevelGetBufferHostSize_8s32f_C3R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8s32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.43.2.32 NppStatus nppiValidNormLevelGetBufferHostSize_8s32f_C4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8s32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.43.2.33 NppStatus nppiValidNormLevelGetBufferHostSize_8u32f_AC4R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8u32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.43.2.34 NppStatus nppiValidNormLevelGetBufferHostSize_8u32f_C1R (NppiSize *oSizeROI*, int * *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8u32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.43.2.35 NppStatus nppiValidNormLevelGetBufferHostSize_8u32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8u32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.43.2.36 NppStatus nppiValidNormLevelGetBufferHostSize_8u32f_C4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8u32f_C4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.43.2.37 NppStatus nppiValidNormLevelGetBufferHostSize_8u_AC4RSfs (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8u_AC4RSfs.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.43.2.38 NppStatus nppiValidNormLevelGetBufferHostSize_8u_C1RSfs (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8u_C1RSfs.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.43.2.39 NppStatus nppiValidNormLevelGetBufferHostSize_8u_C3RSfs (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8u_C3RSfs.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.43.2.40 NppStatus nppiValidNormLevelGetBufferHostSize_8u_C4RSfs (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiCrossCorrValid_NormLevel_8u_C4RSfs.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.44 Image Quality Index

Primitives for computing the image quality index of two images.

QualityIndex

Given two images M and N (both $W \times H$), the mathematical formula to calculate the image quality index Q between them is expressed as:

$$Q = \frac{4\sigma_{MN}\tilde{M}\tilde{N}}{[(\tilde{M}^2) + (\tilde{N}^2)][(\sigma_M)^2 + (\sigma_N)^2]}$$

where

$$\tilde{M} = \frac{1}{W \cdot H}\sum_{j=0}^{H-1}\sum_{i=0}^{W-1} M(j,i)$$

$$\tilde{N} = \frac{1}{W \cdot H}\sum_{j=0}^{H-1}\sum_{i=0}^{W-1} N(j,i)$$

$$\sigma_M = \sqrt{\frac{1}{W \cdot H - 1}\sum_{j=0}^{H-1}\sum_{i=0}^{W-1} [M(j,i) - \tilde{M}]^2}$$

$$\sigma_N = \sqrt{\frac{1}{W \cdot H - 1}\sum_{j=0}^{H-1}\sum_{i=0}^{W-1} [N(j,i) - \tilde{N}]^2}$$

$$\sigma_{MN} = \frac{1}{W \cdot H - 1}\sum_{j=0}^{H-1}\sum_{i=0}^{W-1} [M(j,i) - \tilde{M}][N(j,i) - \tilde{N}]$$

The functions require additional scratch buffer for computations.

- NppStatus nppiQualityIndex_8u32f_C1R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oRoiSize, Npp32f ∗pDst, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image QualityIndex.

- NppStatus nppiQualityIndex_16u32f_C1R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oRoiSize, Npp32f ∗pDst, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit unsigned image QualityIndex.

- NppStatus nppiQualityIndex_32f_C1R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oRoiSize, Npp32f ∗pDst, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point image QualityIndex.

- NppStatus nppiQualityIndex_8u32f_C3R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oRoiSize, Npp32f ∗pDst, Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image QualityIndex.

- NppStatus nppiQualityIndex_16u32f_C3R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oRoiSize, Npp32f ∗pDst, Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit unsigned image QualityIndex.

- NppStatus nppiQualityIndex_32f_C3R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oRoiSize, Npp32f ∗pDst, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point image QualityIndex.

- NppStatus nppiQualityIndex_8u32f_AC4R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oRoiSize, Npp32f ∗pDst, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image QualityIndex.

- NppStatus nppiQualityIndex_16u32f_AC4R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oRoiSize, Npp32f ∗pDst, Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image QualityIndex.

- NppStatus nppiQualityIndex_32f_AC4R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oRoiSize, Npp32f ∗pDst, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image QualityIndex.

QualityIndexGetBufferHostSize

Companion primitives for computing the device buffer size (in bytes) required by the QualityIndex primitives.

- NppStatus nppiQualityIndexGetBufferHostSize_8u32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiQualityIndex_8u32f_C1R.

- NppStatus nppiQualityIndexGetBufferHostSize_16u32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiQualityIndex_16u32f_C1R.

- NppStatus nppiQualityIndexGetBufferHostSize_32f_C1R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiQualityIndex_32f_C1R.

- NppStatus nppiQualityIndexGetBufferHostSize_8u32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiQualityIndex_8u32f_C3R.

- NppStatus nppiQualityIndexGetBufferHostSize_16u32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiQualityIndex_16u32f_C3R.

- NppStatus nppiQualityIndexGetBufferHostSize_32f_C3R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiQualityIndex_32f_C3R.

- NppStatus nppiQualityIndexGetBufferHostSize_8u32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiQualityIndex_8u32f_AC4R.

- NppStatus nppiQualityIndexGetBufferHostSize_16u32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiQualityIndex_16u32f_AC4R.

- NppStatus nppiQualityIndexGetBufferHostSize_32f_AC4R (NppiSize oSizeROI, int ∗hpBufferSize)

  Buffer size (in bytes) for nppiQualityIndex_32f_AC4R.

7.44.1 Detailed Description

Primitives for computing the image quality index of two images.

7.44.2 Function Documentation

7.44.2.1 NppStatus nppiQualityIndex_16u32f_AC4R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oRoiSize*, Npp32f ∗ *pDst*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image QualityIndex.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oRoiSize Region-of-Interest (ROI).

pDst Pointer to the quality index.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiQualityIndexGetBufferHostSize_16u32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_QUALITY_INDEX_ERROR if pixels of either image are constant numberse.

7.44.2.2 NppStatus nppiQualityIndex_16u32f_C1R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oRoiSize*, Npp32f ∗ *pDst*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit unsigned image QualityIndex.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oRoiSize Region-of-Interest (ROI).

pDst Pointer to the quality index.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiQualityIndexGetBufferHostSize_16u32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_QUALITY_INDEX_ERROR if pixels of either image are constant numberse.

7.44.2.3 NppStatus nppiQualityIndex_16u32f_C3R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oRoiSize*, Npp32f ∗ *pDst*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit unsigned image QualityIndex.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oRoiSize Region-of-Interest (ROI).

pDst Pointer to the quality index.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiQualityIndexGetBufferHostSize_16u32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_QUALITY_INDEX_ERROR if pixels of either image are constant numberse.

7.44.2.4 NppStatus nppiQualityIndex_32f_AC4R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oRoiSize*, Npp32f ∗ *pDst*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image QualityIndex.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oRoiSize Region-of-Interest (ROI).

pDst Pointer to the quality index.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiQualityIndexGetBufferHostSize_32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_QUALITY_INDEX_ERROR if pixels of either image are constant numberse.

7.44.2.5 NppStatus nppiQualityIndex_32f_C1R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oRoiSize*, Npp32f ∗ *pDst*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit floating point image QualityIndex.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oRoiSize Region-of-Interest (ROI).

pDst Pointer to the quality index.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiQualityIndexGetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_QUALITY_INDEX_ERROR if pixels of either image are constant numberse.

7.44.2.6 NppStatus nppiQualityIndex_32f_C3R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oRoiSize*, Npp32f ∗ *pDst*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point image QualityIndex.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oRoiSize Region-of-Interest (ROI).

pDst Pointer to the quality index.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiQualityIndexGetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_QUALITY_INDEX_ERROR if pixels of either image are constant numberse.

7.44.2.7 NppStatus nppiQualityIndex_8u32f_AC4R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oRoiSize*, Npp32f ∗ *pDst*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image QualityIndex.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oRoiSize Region-of-Interest (ROI).

pDst Pointer to the quality index.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiQualityIndexGetBufferHostSize_8u32f_AC4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_QUALITY_INDEX_ERROR if pixels of either image are constant numberse.

7.44.2.8 NppStatus nppiQualityIndex_8u32f_C1R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oRoiSize*, Npp32f ∗ *pDst*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit unsigned image QualityIndex.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oRoiSize Region-of-Interest (ROI).

pDst Pointer to the quality index.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiQualityIndexGetBufferHostSize_8u32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_QUALITY_INDEX_ERROR if pixels of either image are constant numberse.

7.44.2.9 NppStatus nppiQualityIndex_8u32f_C3R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oRoiSize*, Npp32f ∗ *pDst*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image QualityIndex.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oRoiSize Region-of-Interest (ROI).

pDst Pointer to the quality index.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiQualityIndexGetBufferHostSize_8u32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_QUALITY_INDEX_ERROR if pixels of either image are constant numberse.

7.44.2.10 NppStatus nppiQualityIndexGetBufferHostSize_16u32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiQualityIndex_16u32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.44.2.11 NppStatus nppiQualityIndexGetBufferHostSize_16u32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiQualityIndex_16u32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.44.2.12 NppStatus nppiQualityIndexGetBufferHostSize_16u32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiQualityIndex_16u32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.44.2.13 NppStatus nppiQualityIndexGetBufferHostSize_32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiQualityIndex_32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.44.2.14 NppStatus nppiQualityIndexGetBufferHostSize_32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiQualityIndex_32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.44.2.15 NppStatus nppiQualityIndexGetBufferHostSize_32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiQualityIndex_32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.44.2.16 NppStatus nppiQualityIndexGetBufferHostSize_8u32f_AC4R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiQualityIndex_8u32f_AC4R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.44.2.17 NppStatus nppiQualityIndexGetBufferHostSize_8u32f_C1R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiQualityIndex_8u32f_C1R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.44.2.18 NppStatus nppiQualityIndexGetBufferHostSize_8u32f_C3R (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Buffer size (in bytes) for nppiQualityIndex_8u32f_C3R.

Parameters:

oSizeROI Region-of-Interest (ROI).

hpBufferSize Required buffer size. Important: hpBufferSize is a *host pointer.* Scratch Buffer and Host Pointer.

Returns:

NPP_NULL_POINTER_ERROR if hpBufferSize is 0 (NULL), ROI Related Error Codes.

7.45 MaximumError

Primitives for computing the maximum error between two images.

Functions

- NppStatus nppiMaximumError_8u_C1R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image Maximum_Error.

- NppStatus nppiMaximumError_8s_C1R (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit signed image Maximum_Error.

- NppStatus nppiMaximumError_16u_C1R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit unsigned image Maximum_Error.

- NppStatus nppiMaximumError_16s_C1R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit signed image Maximum_Error.

- NppStatus nppiMaximumError_16sc_C1R (const Npp16sc ∗pSrc1, int nSrc1Step, const Npp16sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit signed complex image Maximum_Error.

- NppStatus nppiMaximumError_32u_C1R (const Npp32u ∗pSrc1, int nSrc1Step, const Npp32u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit unsigned image Maximum_Error.

- NppStatus nppiMaximumError_32s_C1R (const Npp32s ∗pSrc1, int nSrc1Step, const Npp32s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit signed image Maximum_Error.

- NppStatus nppiMaximumError_32sc_C1R (const Npp32sc ∗pSrc1, int nSrc1Step, const Npp32sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit signed complex image Maximum_Error.

- NppStatus nppiMaximumError_32f_C1R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point image Maximum_Error.

- NppStatus nppiMaximumError_32fc_C1R (const Npp32fc ∗pSrc1, int nSrc1Step, const Npp32fc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point complex image Maximum_Error.

- NppStatus nppiMaximumError_64f_C1R (const Npp64f ∗pSrc1, int nSrc1Step, const Npp64f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 64-bit floating point image Maximum_Error.

- NppStatus nppiMaximumError_8u_C2R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 8-bit unsigned image Maximum_Error.

- NppStatus nppiMaximumError_8s_C2R (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 8-bit signed image Maximum_Error.

- NppStatus nppiMaximumError_16u_C2R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 16-bit unsigned image Maximum_Error.

- NppStatus nppiMaximumError_16s_C2R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 16-bit signed image Maximum_Error.

- NppStatus nppiMaximumError_16sc_C2R (const Npp16sc ∗pSrc1, int nSrc1Step, const Npp16sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 16-bit signed complex image Maximum_Error.

- NppStatus nppiMaximumError_32u_C2R (const Npp32u ∗pSrc1, int nSrc1Step, const Npp32u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 32-bit unsigned image Maximum_Error.

- NppStatus nppiMaximumError_32s_C2R (const Npp32s ∗pSrc1, int nSrc1Step, const Npp32s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 32-bit signed image Maximum_Error.

- NppStatus nppiMaximumError_32sc_C2R (const Npp32sc ∗pSrc1, int nSrc1Step, const Npp32sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 32-bit signed complex image Maximum_Error.

- NppStatus nppiMaximumError_32f_C2R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 32-bit floating point image Maximum_Error.

- NppStatus nppiMaximumError_32fc_C2R (const Npp32fc ∗pSrc1, int nSrc1Step, const Npp32fc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 32-bit floating point complex image Maximum_Error.

- NppStatus nppiMaximumError_64f_C2R (const Npp64f ∗pSrc1, int nSrc1Step, const Npp64f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 64-bit floating point image Maximum_Error.

- NppStatus nppiMaximumError_8u_C3R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image Maximum_Error.

- NppStatus nppiMaximumError_8s_C3R (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit signed image Maximum_Error.

- NppStatus nppiMaximumError_16u_C3R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit unsigned image Maximum_Error.

- NppStatus nppiMaximumError_16s_C3R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit signed image Maximum_Error.

- NppStatus nppiMaximumError_16sc_C3R (const Npp16sc ∗pSrc1, int nSrc1Step, const Npp16sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit signed complex image Maximum_Error.

- NppStatus nppiMaximumError_32u_C3R (const Npp32u ∗pSrc1, int nSrc1Step, const Npp32u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit unsigned image Maximum_Error.

- NppStatus nppiMaximumError_32s_C3R (const Npp32s ∗pSrc1, int nSrc1Step, const Npp32s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit signed image Maximum_Error.

- NppStatus nppiMaximumError_32sc_C3R (const Npp32sc ∗pSrc1, int nSrc1Step, const Npp32sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit signed complex image Maximum_Error.

- NppStatus nppiMaximumError_32f_C3R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point image Maximum_Error.

- NppStatus nppiMaximumError_32fc_C3R (const Npp32fc ∗pSrc1, int nSrc1Step, const Npp32fc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point complex image Maximum_Error.

- NppStatus nppiMaximumError_64f_C3R (const Npp64f ∗pSrc1, int nSrc1Step, const Npp64f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 64-bit floating point image Maximum_Error.

- NppStatus nppiMaximumError_8u_C4R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image Maximum_Error.

- NppStatus nppiMaximumError_8s_C4R (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit signed image Maximum_Error.

- NppStatus nppiMaximumError_16u_C4R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image Maximum_Error.

- NppStatus nppiMaximumError_16s_C4R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

Four-channel 16-bit signed image Maximum_Error.

- NppStatus nppiMaximumError_16sc_C4R (const Npp16sc ∗pSrc1, int nSrc1Step, const Npp16sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed complex image Maximum_Error.

- NppStatus nppiMaximumError_32u_C4R (const Npp32u ∗pSrc1, int nSrc1Step, const Npp32u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit unsigned image Maximum_Error.

- NppStatus nppiMaximumError_32s_C4R (const Npp32s ∗pSrc1, int nSrc1Step, const Npp32s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit signed image Maximum_Error.

- NppStatus nppiMaximumError_32sc_C4R (const Npp32sc ∗pSrc1, int nSrc1Step, const Npp32sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit signed complex image Maximum_Error.

- NppStatus nppiMaximumError_32f_C4R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image Maximum_Error.

- NppStatus nppiMaximumError_32fc_C4R (const Npp32fc ∗pSrc1, int nSrc1Step, const Npp32fc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point complex image Maximum_Error.

- NppStatus nppiMaximumError_64f_C4R (const Npp64f ∗pSrc1, int nSrc1Step, const Npp64f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 64-bit floating point image Maximum_Error.

7.45.1 Detailed Description

Primitives for computing the maximum error between two images.

Given two images $pSrc1$ and $pSrc2$ both with width W and height H, the maximum error is defined as the largest absolute difference between pixels of two images. If the image is in complex format, the absolute value of the complex number is provided.

7.45.2 Function Documentation

7.45.2.1 NppStatus nppiMaximumError_16s_C1R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit signed image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.2 NppStatus nppiMaximumError_16s_C2R (const Npp16s * *pSrc1*, int *nSrc1Step*, const Npp16s * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Two-channel 16-bit signed image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16s_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.3 NppStatus nppiMaximumError_16s_C3R (const Npp16s * *pSrc1*, int *nSrc1Step*, const Npp16s * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Three-channel 16-bit signed image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.4 NppStatus nppiMaximumError_16s_C4R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.5 NppStatus nppiMaximumError_16sc_C1R (const Npp16sc ∗ *pSrc1*, int *nSrc1Step*, const Npp16sc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit signed complex image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.6 NppStatus nppiMaximumError_16sc_C2R (const Npp16sc ∗ *pSrc1*, int *nSrc1Step*, const Npp16sc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 16-bit signed complex image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16s_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.7 NppStatus nppiMaximumError_16sc_C3R (const Npp16sc * *pSrc1*, int *nSrc1Step*, const Npp16sc * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Three-channel 16-bit signed complex image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.8 NppStatus nppiMaximumError_16sc_C4R (const Npp16sc * *pSrc1*, int *nSrc1Step*, const Npp16sc * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Four-channel 16-bit signed complex image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.9 NppStatus nppiMaximumError_16u_C1R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit unsigned image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.10 NppStatus nppiMaximumError_16u_C2R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 16-bit unsigned image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16u_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.11 NppStatus nppiMaximumError_16u_C3R (const Npp16u * *pSrc1*, int *nSrc1Step*, const Npp16u * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Three-channel 16-bit unsigned image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.12 NppStatus nppiMaximumError_16u_C4R (const Npp16u * *pSrc1*, int *nSrc1Step*, const Npp16u * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Four-channel 16-bit unsigned image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.13 NppStatus nppiMaximumError_32f_C1R (const Npp32f * *pSrc1*, int *nSrc1Step*, const Npp32f * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

One-channel 32-bit floating point image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.45.2.14 NppStatus nppiMaximumError_32f_C2R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 32-bit floating point image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_32f_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.45.2.15 NppStatus nppiMaximumError_32f_C3R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.45.2.16 NppStatus nppiMaximumError_32f_C4R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.45.2.17 NppStatus nppiMaximumError_32fc_C1R (const Npp32fc ∗ *pSrc1*, int *nSrc1Step*, const Npp32fc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit floating point complex image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.45.2.18 NppStatus nppiMaximumError_32fc_C2R (const Npp32fc * *pSrc1*, int *nSrc1Step*, const Npp32fc * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Two-channel 32-bit floating point complex image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_32f_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.45.2.19 NppStatus nppiMaximumError_32fc_C3R (const Npp32fc * *pSrc1*, int *nSrc1Step*, const Npp32fc * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Three-channel 32-bit floating point complex image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.45.2.20 NppStatus nppiMaximumError_32fc_C4R (const Npp32fc * *pSrc1*, int *nSrc1Step*, const Npp32fc * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Four-channel 32-bit floating point complex image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.45.2.21 NppStatus nppiMaximumError_32s_C1R (const Npp32s * *pSrc1*, int *nSrc1Step*, const Npp32s * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

One-channel 32-bit signed image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.22 NppStatus nppiMaximumError_32s_C2R (const Npp32s * *pSrc1*, int *nSrc1Step*, const Npp32s * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Two-channel 32-bit signed image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16s_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.23 NppStatus nppiMaximumError_32s_C3R (const Npp32s ∗ *pSrc1*, int *nSrc1Step*, const Npp32s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit signed image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.24 NppStatus nppiMaximumError_32s_C4R (const Npp32s ∗ *pSrc1*, int *nSrc1Step*, const Npp32s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit signed image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.25 NppStatus nppiMaximumError_32sc_C1R (const Npp32sc * *pSrc1*, int *nSrc1Step*, const Npp32sc * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

One-channel 32-bit signed complex image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.26 NppStatus nppiMaximumError_32sc_C2R (const Npp32sc * *pSrc1*, int *nSrc1Step*, const Npp32sc * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Two-channel 32-bit signed complex image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16s_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.27 NppStatus nppiMaximumError_32sc_C3R (const Npp32sc ∗ *pSrc1*, int *nSrc1Step*, const Npp32sc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit signed complex image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.28 NppStatus nppiMaximumError_32sc_C4R (const Npp32sc ∗ *pSrc1*, int *nSrc1Step*, const Npp32sc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit signed complex image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.29 NppStatus nppiMaximumError_32u_C1R (const Npp32u ∗ *pSrc1*, int *nSrc1Step*, const Npp32u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit unsigned image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.30 NppStatus nppiMaximumError_32u_C2R (const Npp32u ∗ *pSrc1*, int *nSrc1Step*, const Npp32u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 32-bit unsigned image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16u_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.31 NppStatus nppiMaximumError_32u_C3R (const Npp32u ∗ *pSrc1*, int *nSrc1Step*, const Npp32u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit unsigned image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.32 NppStatus nppiMaximumError_32u_C4R (const Npp32u * *pSrc1*, int *nSrc1Step*, const Npp32u * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Four-channel 32-bit unsigned image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_16u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.33 NppStatus nppiMaximumError_64f_C1R (const Npp64f * *pSrc1*, int *nSrc1Step*, const Npp64f * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

One-channel 64-bit floating point image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.45.2.34 NppStatus nppiMaximumError_64f_C2R (const Npp64f ∗ *pSrc1*, int *nSrc1Step*, const Npp64f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 64-bit floating point image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_32f_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.45.2.35 NppStatus nppiMaximumError_64f_C3R (const Npp64f ∗ *pSrc1*, int *nSrc1Step*, const Npp64f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 64-bit floating point image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.45.2.36 NppStatus nppiMaximumError_64f_C4R (const Npp64f ∗ *pSrc1*, int *nSrc1Step*, const Npp64f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 64-bit floating point image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.45.2.37 NppStatus nppiMaximumError_8s_C1R (const Npp8s * *pSrc1*, int *nSrc1Step*, const Npp8s * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

One-channel 8-bit signed image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_8u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.38 NppStatus nppiMaximumError_8s_C2R (const Npp8s * *pSrc1*, int *nSrc1Step*, const Npp8s * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Two-channel 8-bit signed image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_8u_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.39 NppStatus nppiMaximumError_8s_C3R (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit signed image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_8u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.40 NppStatus nppiMaximumError_8s_C4R (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit signed image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_8u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.41 NppStatus nppiMaximumError_8u_C1R (const Npp8u $*$ *pSrc1*, int *nSrc1Step*, const Npp8u $*$ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f $*$ *pError*, Npp8u $*$ *pDeviceBuffer*)

One-channel 8-bit unsigned image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_8u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.42 NppStatus nppiMaximumError_8u_C2R (const Npp8u $*$ *pSrc1*, int *nSrc1Step*, const Npp8u $*$ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f $*$ *pError*, Npp8u $*$ *pDeviceBuffer*)

Two-channel 8-bit unsigned image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_8u_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.43 NppStatus nppiMaximumError_8u_C3R (const Npp8u $*$ *pSrc1*, int *nSrc1Step*, const Npp8u $*$ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f $*$ *pError*, Npp8u $*$ *pDeviceBuffer*)

Three-channel 8-bit unsigned image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_8u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.45.2.44 NppStatus nppiMaximumError_8u_C4R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image Maximum_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumErrorGetBufferHostSize_8u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46 AverageError

Primitives for computing the average error between two images.

Functions

- NppStatus nppiAverageError_8u_C1R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image Average_Error.

- NppStatus nppiAverageError_8s_C1R (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit signed image Average_Error.

- NppStatus nppiAverageError_16u_C1R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit unsigned image Average_Error.

- NppStatus nppiAverageError_16s_C1R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit signed image Average_Error.

- NppStatus nppiAverageError_16sc_C1R (const Npp16sc ∗pSrc1, int nSrc1Step, const Npp16sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit signed complex image Average_Error.

- NppStatus nppiAverageError_32u_C1R (const Npp32u ∗pSrc1, int nSrc1Step, const Npp32u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit unsigned image Average_Error.

- NppStatus nppiAverageError_32s_C1R (const Npp32s ∗pSrc1, int nSrc1Step, const Npp32s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit signed image Average_Error.

- NppStatus nppiAverageError_32sc_C1R (const Npp32sc ∗pSrc1, int nSrc1Step, const Npp32sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit signed complex image Average_Error.

- NppStatus nppiAverageError_32f_C1R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point image Average_Error.

- NppStatus nppiAverageError_32fc_C1R (const Npp32fc ∗pSrc1, int nSrc1Step, const Npp32fc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point complex image Average_Error.

- NppStatus nppiAverageError_64f_C1R (const Npp64f ∗pSrc1, int nSrc1Step, const Npp64f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 64-bit floating point image Average_Error.

- NppStatus nppiAverageError_8u_C2R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 8-bit unsigned image Average_Error.

- NppStatus nppiAverageError_8s_C2R (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 8-bit signed image Average_Error.

- NppStatus nppiAverageError_16u_C2R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 16-bit unsigned image Average_Error.

- NppStatus nppiAverageError_16s_C2R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 16-bit signed image Average_Error.

- NppStatus nppiAverageError_16sc_C2R (const Npp16sc ∗pSrc1, int nSrc1Step, const Npp16sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 16-bit signed complex image Average_Error.

- NppStatus nppiAverageError_32u_C2R (const Npp32u ∗pSrc1, int nSrc1Step, const Npp32u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 32-bit unsigned image Average_Error.

- NppStatus nppiAverageError_32s_C2R (const Npp32s ∗pSrc1, int nSrc1Step, const Npp32s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 32-bit signed image Average_Error.

- NppStatus nppiAverageError_32sc_C2R (const Npp32sc ∗pSrc1, int nSrc1Step, const Npp32sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 32-bit signed complex image Average_Error.

- NppStatus nppiAverageError_32f_C2R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 32-bit floating point image Average_Error.

- NppStatus nppiAverageError_32fc_C2R (const Npp32fc ∗pSrc1, int nSrc1Step, const Npp32fc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 32-bit floating point complex image Average_Error.

- NppStatus nppiAverageError_64f_C2R (const Npp64f ∗pSrc1, int nSrc1Step, const Npp64f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 64-bit floating point image Average_Error.

- NppStatus nppiAverageError_8u_C3R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image Average_Error.

- NppStatus nppiAverageError_8s_C3R (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit signed image Average_Error.

- NppStatus nppiAverageError_16u_C3R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit unsigned image Average_Error.

- NppStatus nppiAverageError_16s_C3R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit signed image Average_Error.

- NppStatus nppiAverageError_16sc_C3R (const Npp16sc ∗pSrc1, int nSrc1Step, const Npp16sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit signed complex image Average_Error.

- NppStatus nppiAverageError_32u_C3R (const Npp32u ∗pSrc1, int nSrc1Step, const Npp32u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit unsigned image Average_Error.

- NppStatus nppiAverageError_32s_C3R (const Npp32s ∗pSrc1, int nSrc1Step, const Npp32s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit signed image Average_Error.

- NppStatus nppiAverageError_32sc_C3R (const Npp32sc ∗pSrc1, int nSrc1Step, const Npp32sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit signed complex image Average_Error.

- NppStatus nppiAverageError_32f_C3R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point image Average_Error.

- NppStatus nppiAverageError_32fc_C3R (const Npp32fc ∗pSrc1, int nSrc1Step, const Npp32fc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point complex image Average_Error.

- NppStatus nppiAverageError_64f_C3R (const Npp64f ∗pSrc1, int nSrc1Step, const Npp64f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 64-bit floating point image Average_Error.

- NppStatus nppiAverageError_8u_C4R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image Average_Error.

- NppStatus nppiAverageError_8s_C4R (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit signed image Average_Error.

- NppStatus nppiAverageError_16u_C4R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image Average_Error.

- NppStatus nppiAverageError_16s_C4R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

Four-channel 16-bit signed image Average_Error.

- NppStatus nppiAverageError_16sc_C4R (const Npp16sc ∗pSrc1, int nSrc1Step, const Npp16sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed complex image Average_Error.

- NppStatus nppiAverageError_32u_C4R (const Npp32u ∗pSrc1, int nSrc1Step, const Npp32u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit unsigned image Average_Error.

- NppStatus nppiAverageError_32s_C4R (const Npp32s ∗pSrc1, int nSrc1Step, const Npp32s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit signed image Average_Error.

- NppStatus nppiAverageError_32sc_C4R (const Npp32sc ∗pSrc1, int nSrc1Step, const Npp32sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit signed complex image Average_Error.

- NppStatus nppiAverageError_32f_C4R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image Average_Error.

- NppStatus nppiAverageError_32fc_C4R (const Npp32fc ∗pSrc1, int nSrc1Step, const Npp32fc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point complex image Average_Error.

- NppStatus nppiAverageError_64f_C4R (const Npp64f ∗pSrc1, int nSrc1Step, const Npp64f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 64-bit floating point image Average_Error.

7.46.1 Detailed Description

Primitives for computing the average error between two images.

Given two images $pSrc1$ and $pSrc2$ both with width W and height H, the average error is defined as:

$$AverageError = \frac{1}{W \cdot H \cdot N} \sum_{n=0}^{N-1} \sum_{j=0}^{H-1} \sum_{i=0}^{W-1} |pSrc1(j,i) - pSrc2(j,i)|$$

where N stands for the number of channels. If the image is in complex format, the absolute value is used for computation.

7.46.2 Function Documentation

7.46.2.1 NppStatus nppiAverageError_16s_C1R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit signed image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.2 NppStatus nppiAverageError_16s_C2R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 16-bit signed image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16s_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.3 NppStatus nppiAverageError_16s_C3R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit signed image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.4 NppStatus nppiAverageError_16s_C4R (const Npp16s * *pSrc1*, int *nSrc1Step*, const Npp16s * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Four-channel 16-bit signed image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.5 NppStatus nppiAverageError_16sc_C1R (const Npp16sc * *pSrc1*, int *nSrc1Step*, const Npp16sc * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

One-channel 16-bit signed complex image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16sc_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.6 NppStatus nppiAverageError_16sc_C2R (const Npp16sc ∗ *pSrc1*, int *nSrc1Step*, const Npp16sc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 16-bit signed complex image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16s_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.7 NppStatus nppiAverageError_16sc_C3R (const Npp16sc ∗ *pSrc1*, int *nSrc1Step*, const Npp16sc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit signed complex image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.8 NppStatus nppiAverageError_16sc_C4R (const Npp16sc ∗ *pSrc1*, int *nSrc1Step*, const Npp16sc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed complex image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.9 NppStatus nppiAverageError_16u_C1R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit unsigned image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.10 NppStatus nppiAverageError_16u_C2R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 16-bit unsigned image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16u_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.11 NppStatus nppiAverageError_16u_C3R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit unsigned image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.12 NppStatus nppiAverageError_16u_C4R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.13 NppStatus nppiAverageError_32f_C1R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit floating point image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.46.2.14 NppStatus nppiAverageError_32f_C2R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 32-bit floating point image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_32f_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.46.2.15 NppStatus nppiAverageError_32f_C3R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.46.2.16 NppStatus nppiAverageError_32f_C4R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.46.2.17 NppStatus nppiAverageError_32fc_C1R (const Npp32fc ∗ *pSrc1*, int *nSrc1Step*, const Npp32fc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit floating point complex image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.46.2.18 NppStatus nppiAverageError_32fc_C2R (const Npp32fc ∗ *pSrc1*, int *nSrc1Step*, const Npp32fc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 32-bit floating point complex image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_32f_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.46.2.19 NppStatus nppiAverageError_32fc_C3R (const Npp32fc ∗ *pSrc1*, int *nSrc1Step*, const Npp32fc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point complex image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.46.2.20 NppStatus nppiAverageError_32fc_C4R (const Npp32fc ∗ *pSrc1*, int *nSrc1Step*, const Npp32fc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point complex image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.46.2.21 NppStatus nppiAverageError_32s_C1R (const Npp32s ∗ *pSrc1*, int *nSrc1Step*, const Npp32s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit signed image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.22 NppStatus nppiAverageError_32s_C2R (const Npp32s ∗ *pSrc1*, int *nSrc1Step*, const Npp32s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 32-bit signed image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16s_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.23 NppStatus nppiAverageError_32s_C3R (const Npp32s ∗ *pSrc1*, int *nSrc1Step*, const Npp32s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit signed image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.24 NppStatus nppiAverageError_32s_C4R (const Npp32s ∗ *pSrc1*, int *nSrc1Step*, const Npp32s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit signed image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.25 NppStatus nppiAverageError_32sc_C1R (const Npp32sc ∗ *pSrc1*, int *nSrc1Step*, const Npp32sc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit signed complex image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.26 NppStatus nppiAverageError_32sc_C2R (const Npp32sc ∗ *pSrc1*, int *nSrc1Step*, const Npp32sc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 32-bit signed complex image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16s_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.27 NppStatus nppiAverageError_32sc_C3R (const Npp32sc ∗ *pSrc1*, int *nSrc1Step*, const Npp32sc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit signed complex image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.28 NppStatus nppiAverageError_32sc_C4R (const Npp32sc ∗ *pSrc1*, int *nSrc1Step*, const Npp32sc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit signed complex image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.29 NppStatus nppiAverageError_32u_C1R (const Npp32u ∗ *pSrc1*, int *nSrc1Step*, const Npp32u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit unsigned image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.30 NppStatus nppiAverageError_32u_C2R (const Npp32u ∗ *pSrc1*, int *nSrc1Step*, const Npp32u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 32-bit unsigned image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16u_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.31 NppStatus nppiAverageError_32u_C3R (const Npp32u ∗ *pSrc1*, int *nSrc1Step*, const Npp32u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit unsigned image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.32 NppStatus nppiAverageError_32u_C4R (const Npp32u ∗ *pSrc1*, int *nSrc1Step*, const Npp32u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit unsigned image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_16u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.33 NppStatus nppiAverageError_64f_C1R (const Npp64f ∗ *pSrc1*, int *nSrc1Step*, const Npp64f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 64-bit floating point image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.46.2.34 NppStatus nppiAverageError_64f_C2R (const Npp64f ∗ *pSrc1*, int *nSrc1Step*, const Npp64f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 64-bit floating point image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_32f_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.46.2.35 NppStatus nppiAverageError_64f_C3R (const Npp64f ∗ *pSrc1*, int *nSrc1Step*, const Npp64f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 64-bit floating point image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.46.2.36 NppStatus nppiAverageError_64f_C4R (const Npp64f ∗ *pSrc1*, int *nSrc1Step*, const Npp64f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 64-bit floating point image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.46.2.37 NppStatus nppiAverageError_8s_C1R (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit signed image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_8u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.38 NppStatus nppiAverageError_8s_C2R (const Npp8s * *pSrc1*, int *nSrc1Step*, const Npp8s * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Two-channel 8-bit signed image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_8u_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.39 NppStatus nppiAverageError_8s_C3R (const Npp8s * *pSrc1*, int *nSrc1Step*, const Npp8s * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Three-channel 8-bit signed image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_8u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.40 NppStatus nppiAverageError_8s_C4R (const Npp8s * *pSrc1*, int *nSrc1Step*, const Npp8s * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Four-channel 8-bit signed image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_8u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.41 NppStatus nppiAverageError_8u_C1R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit unsigned image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_8u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.42 NppStatus nppiAverageError_8u_C2R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 8-bit unsigned image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_8u_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.43 NppStatus nppiAverageError_8u_C3R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_8u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.46.2.44 NppStatus nppiAverageError_8u_C4R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image Average_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageErrorGetBufferHostSize_8u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47 MaximumRelativeError

Primitives for computing the maximum relative error between two images.

Functions

- NppStatus nppiMaximumRelativeError_8u_C1R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_8s_C1R (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit signed image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_16u_C1R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit unsigned image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_16s_C1R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit signed image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_16sc_C1R (const Npp16sc ∗pSrc1, int nSrc1Step, const Npp16sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit signed complex image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_32u_C1R (const Npp32u ∗pSrc1, int nSrc1Step, const Npp32u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit unsigned image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_32s_C1R (const Npp32s ∗pSrc1, int nSrc1Step, const Npp32s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit signed image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_32sc_C1R (const Npp32sc ∗pSrc1, int nSrc1Step, const Npp32sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit signed complex image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_32f_C1R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_32fc_C1R (const Npp32fc ∗pSrc1, int nSrc1Step, const Npp32fc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point complex image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_64f_C1R (const Npp64f ∗pSrc1, int nSrc1Step, const Npp64f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 64-bit floating point image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_8u_C2R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 8-bit unsigned image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_8s_C2R (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 8-bit signed image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_16u_C2R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 16-bit unsigned image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_16s_C2R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 16-bit signed image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_16sc_C2R (const Npp16sc ∗pSrc1, int nSrc1Step, const Npp16sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 16-bit signed complex image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_32u_C2R (const Npp32u ∗pSrc1, int nSrc1Step, const Npp32u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 32-bit unsigned image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_32s_C2R (const Npp32s ∗pSrc1, int nSrc1Step, const Npp32s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 32-bit signed image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_32sc_C2R (const Npp32sc ∗pSrc1, int nSrc1Step, const Npp32sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 32-bit signed complex image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_32f_C2R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 32-bit floating point image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_32fc_C2R (const Npp32fc ∗pSrc1, int nSrc1Step, const Npp32fc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 32-bit floating point complex image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_64f_C2R (const Npp64f ∗pSrc1, int nSrc1Step, const Npp64f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Two-channel 64-bit floating point image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_8u_C3R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit unsigned image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_8s_C3R (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 8-bit signed image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_16u_C3R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit unsigned image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_16s_C3R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit signed image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_16sc_C3R (const Npp16sc ∗pSrc1, int nSrc1Step, const Npp16sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit signed complex image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_32u_C3R (const Npp32u ∗pSrc1, int nSrc1Step, const Npp32u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit unsigned image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_32s_C3R (const Npp32s ∗pSrc1, int nSrc1Step, const Npp32s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit signed image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_32sc_C3R (const Npp32sc ∗pSrc1, int nSrc1Step, const Npp32sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit signed complex image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_32f_C3R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_32fc_C3R (const Npp32fc ∗pSrc1, int nSrc1Step, const Npp32fc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point complex image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_64f_C3R (const Npp64f ∗pSrc1, int nSrc1Step, const Npp64f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 64-bit floating point image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_8u_C4R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_8s_C4R (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit signed image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_16u_C4R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_16s_C4R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

Four-channel 16-bit signed image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_16sc_C4R (const Npp16sc ∗pSrc1, int nSrc1Step, const Npp16sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed complex image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_32u_C4R (const Npp32u ∗pSrc1, int nSrc1Step, const Npp32u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit unsigned image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_32s_C4R (const Npp32s ∗pSrc1, int nSrc1Step, const Npp32s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit signed image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_32sc_C4R (const Npp32sc ∗pSrc1, int nSrc1Step, const Npp32sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit signed complex image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_32f_C4R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_32fc_C4R (const Npp32fc ∗pSrc1, int nSrc1Step, const Npp32fc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point complex image MaximumRelative_Error.

- NppStatus nppiMaximumRelativeError_64f_C4R (const Npp64f ∗pSrc1, int nSrc1Step, const Npp64f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 64-bit floating point image MaximumRelative_Error.

7.47.1 Detailed Description

Primitives for computing the maximum relative error between two images.

Given two images $pSrc1$ and $pSrc2$ both with width W and height H, the maximum relative error is defined as:

$$MaximumRelativeError = max\frac{|pSrc1(j,i) - pSrc2(j,i)|}{max(|pSrc1(j,i)|, |pSrc2(j,i)|)}$$

If the image is in complex format, the absolute value is used for computation. For multiple channels, the maximum relative error of all the channels is returned.

7.47.2 Function Documentation

7.47.2.1 NppStatus nppiMaximumRelativeError_16s_C1R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit signed image MaximumRelative_Error.

Parameters:

- ***pSrc1*** Source-Image Pointer.
- ***nSrc1Step*** Source-Image Line Step.
- ***pSrc2*** Source-Image Pointer.
- ***nSrc2Step*** Source-Image Line Step.
- ***oSizeROI*** Region-of-Interest (ROI).
- ***pError*** Pointer to the computed error.
- ***pDeviceBuffer*** Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.2 NppStatus nppiMaximumRelativeError_16s_C2R (const Npp16s $*$ *pSrc1*, int *nSrc1Step*, const Npp16s $*$ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f $*$ *pError*, Npp8u $*$ *pDeviceBuffer*)

Two-channel 16-bit signed image MaximumRelative_Error.

Parameters:

- ***pSrc1*** Source-Image Pointer.
- ***nSrc1Step*** Source-Image Line Step.
- ***pSrc2*** Source-Image Pointer.
- ***nSrc2Step*** Source-Image Line Step.
- ***oSizeROI*** Region-of-Interest (ROI).
- ***pError*** Pointer to the computed error.
- ***pDeviceBuffer*** Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16s_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.3 NppStatus nppiMaximumRelativeError_16s_C3R (const Npp16s $*$ *pSrc1*, int *nSrc1Step*, const Npp16s $*$ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f $*$ *pError*, Npp8u $*$ *pDeviceBuffer*)

Three-channel 16-bit signed image MaximumRelative_Error.

Parameters:

- ***pSrc1*** Source-Image Pointer.
- ***nSrc1Step*** Source-Image Line Step.
- ***pSrc2*** Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.4 NppStatus nppiMaximumRelativeError_16s_C4R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.5 NppStatus nppiMaximumRelativeError_16sc_C1R (const Npp16sc ∗ *pSrc1*, int *nSrc1Step*, const Npp16sc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit signed complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.6 NppStatus nppiMaximumRelativeError_16sc_C2R (const Npp16sc * *pSrc1*, int *nSrc1Step*, const Npp16sc * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Two-channel 16-bit signed complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16s_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.7 NppStatus nppiMaximumRelativeError_16sc_C3R (const Npp16sc * *pSrc1*, int *nSrc1Step*, const Npp16sc * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Three-channel 16-bit signed complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.8 NppStatus nppiMaximumRelativeError_16sc_C4R (const Npp16sc * *pSrc1*, int *nSrc1Step*, const Npp16sc * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Four-channel 16-bit signed complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.9 NppStatus nppiMaximumRelativeError_16u_C1R (const Npp16u * *pSrc1*, int *nSrc1Step*, const Npp16u * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

One-channel 16-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.10 NppStatus nppiMaximumRelativeError_16u_C2R (const Npp16u * *pSrc1*, int *nSrc1Step*, const Npp16u * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Two-channel 16-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16u_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.11 NppStatus nppiMaximumRelativeError_16u_C3R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.12 NppStatus nppiMaximumRelativeError_16u_C4R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.13 NppStatus nppiMaximumRelativeError_32f_C1R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit floating point image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.47.2.14 NppStatus nppiMaximumRelativeError_32f_C2R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 32-bit floating point image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_32f_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.47.2.15 NppStatus nppiMaximumRelativeError_32f_C3R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.47.2.16 NppStatus nppiMaximumRelativeError_32f_C4R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.47.2.17 NppStatus nppiMaximumRelativeError_32fc_C1R (const Npp32fc ∗ *pSrc1*, int *nSrc1Step*, const Npp32fc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit floating point complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.47.2.18 NppStatus nppiMaximumRelativeError_32fc_C2R (const Npp32fc ∗ *pSrc1*, int *nSrc1Step*, const Npp32fc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 32-bit floating point complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_32f_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.47.2.19 NppStatus nppiMaximumRelativeError_32fc_C3R (const Npp32fc ∗ *pSrc1*, int *nSrc1Step*, const Npp32fc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.47.2.20 NppStatus nppiMaximumRelativeError_32fc_C4R (const Npp32fc ∗ *pSrc1*, int *nSrc1Step*, const Npp32fc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.47.2.21 NppStatus nppiMaximumRelativeError_32s_C1R (const Npp32s ∗ *pSrc1*, int *nSrc1Step*, const Npp32s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.22 NppStatus nppiMaximumRelativeError_32s_C2R (const Npp32s ∗ *pSrc1*, int *nSrc1Step*, const Npp32s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 32-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16s_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.23 NppStatus nppiMaximumRelativeError_32s_C3R (const Npp32s ∗ *pSrc1*, int *nSrc1Step*, const Npp32s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.24 NppStatus nppiMaximumRelativeError_32s_C4R (const Npp32s ∗ *pSrc1*, int *nSrc1Step*, const Npp32s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.25 NppStatus nppiMaximumRelativeError_32sc_C1R (const Npp32sc ∗ *pSrc1*, int *nSrc1Step*, const Npp32sc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit signed complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.26 NppStatus nppiMaximumRelativeError_32sc_C2R (const Npp32sc ∗ *pSrc1*, int *nSrc1Step*, const Npp32sc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 32-bit signed complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16s_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.27 NppStatus nppiMaximumRelativeError_32sc_C3R (const Npp32sc ∗ *pSrc1*, int *nSrc1Step*, const Npp32sc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit signed complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.28 NppStatus nppiMaximumRelativeError_32sc_C4R (const Npp32sc ∗ *pSrc1*, int *nSrc1Step*, const Npp32sc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit signed complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.29 NppStatus nppiMaximumRelativeError_32u_C1R (const Npp32u ∗ *pSrc1*, int *nSrc1Step*, const Npp32u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.30 NppStatus nppiMaximumRelativeError_32u_C2R (const Npp32u ∗ *pSrc1*, int *nSrc1Step*, const Npp32u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 32-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16u_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.31 NppStatus nppiMaximumRelativeError_32u_C3R (const Npp32u ∗ *pSrc1*, int *nSrc1Step*, const Npp32u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.32 NppStatus nppiMaximumRelativeError_32u_C4R (const Npp32u ∗ *pSrc1*, int *nSrc1Step*, const Npp32u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_16u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.33 NppStatus nppiMaximumRelativeError_64f_C1R (const Npp64f * *pSrc1*, int *nSrc1Step*, const Npp64f * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

One-channel 64-bit floating point image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.47.2.34 NppStatus nppiMaximumRelativeError_64f_C2R (const Npp64f * *pSrc1*, int *nSrc1Step*, const Npp64f * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Two-channel 64-bit floating point image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_32f_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.47.2.35 NppStatus nppiMaximumRelativeError_64f_C3R (const Npp64f ∗ *pSrc1*, int *nSrc1Step*, const Npp64f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 64-bit floating point image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.47.2.36 NppStatus nppiMaximumRelativeError_64f_C4R (const Npp64f ∗ *pSrc1*, int *nSrc1Step*, const Npp64f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 64-bit floating point image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.47.2.37 NppStatus nppiMaximumRelativeError_8s_C1R (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_8u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.38 NppStatus nppiMaximumRelativeError_8s_C2R (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 8-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_8u_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.39 NppStatus nppiMaximumRelativeError_8s_C3R (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_8u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.40 NppStatus nppiMaximumRelativeError_8s_C4R (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_8u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.41 NppStatus nppiMaximumRelativeError_8u_C1R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_8u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.42 NppStatus nppiMaximumRelativeError_8u_C2R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 8-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_8u_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.43 NppStatus nppiMaximumRelativeError_8u_C3R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_8u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.47.2.44 NppStatus nppiMaximumRelativeError_8u_C4R (const Npp8u * *pSrc1*, int *nSrc1Step*, const Npp8u * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Four-channel 8-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiMaximumRelativeErrorGetBufferHostSize_8u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48 AverageRelativeError

Primitives for computing the average relative error between two images.

Functions

- NppStatus nppiAverageRelativeError_8u_C1R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit unsigned image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_8s_C1R (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 8-bit signed image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_16u_C1R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit unsigned image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_16s_C1R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit signed image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_16sc_C1R (const Npp16sc ∗pSrc1, int nSrc1Step, const Npp16sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 16-bit signed complex image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_32u_C1R (const Npp32u ∗pSrc1, int nSrc1Step, const Npp32u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit unsigned image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_32s_C1R (const Npp32s ∗pSrc1, int nSrc1Step, const Npp32s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit signed image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_32sc_C1R (const Npp32sc ∗pSrc1, int nSrc1Step, const Npp32sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit signed complex image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_32f_C1R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_32fc_C1R (const Npp32fc ∗pSrc1, int nSrc1Step, const Npp32fc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 32-bit floating point complex image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_64f_C1R (const Npp64f ∗pSrc1, int nSrc1Step, const Npp64f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  One-channel 64-bit floating point image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_8u_C2R (const Npp8u *pSrc1, int nSrc1Step, const Npp8u *pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f *pError, Npp8u *pDeviceBuffer)

  Two-channel 8-bit unsigned image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_8s_C2R (const Npp8s *pSrc1, int nSrc1Step, const Npp8s *pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f *pError, Npp8u *pDeviceBuffer)

  Two-channel 8-bit signed image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_16u_C2R (const Npp16u *pSrc1, int nSrc1Step, const Npp16u *pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f *pError, Npp8u *pDeviceBuffer)

  Two-channel 16-bit unsigned image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_16s_C2R (const Npp16s *pSrc1, int nSrc1Step, const Npp16s *pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f *pError, Npp8u *pDeviceBuffer)

  Two-channel 16-bit signed image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_16sc_C2R (const Npp16sc *pSrc1, int nSrc1Step, const Npp16sc *pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f *pError, Npp8u *pDeviceBuffer)

  Two-channel 16-bit signed complex image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_32u_C2R (const Npp32u *pSrc1, int nSrc1Step, const Npp32u *pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f *pError, Npp8u *pDeviceBuffer)

  Two-channel 32-bit unsigned image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_32s_C2R (const Npp32s *pSrc1, int nSrc1Step, const Npp32s *pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f *pError, Npp8u *pDeviceBuffer)

  Two-channel 32-bit signed image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_32sc_C2R (const Npp32sc *pSrc1, int nSrc1Step, const Npp32sc *pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f *pError, Npp8u *pDeviceBuffer)

  Two-channel 32-bit signed complex image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_32f_C2R (const Npp32f *pSrc1, int nSrc1Step, const Npp32f *pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f *pError, Npp8u *pDeviceBuffer)

  Two-channel 32-bit floating point image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_32fc_C2R (const Npp32fc *pSrc1, int nSrc1Step, const Npp32fc *pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f *pError, Npp8u *pDeviceBuffer)

  Two-channel 32-bit floating point complex image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_64f_C2R (const Npp64f *pSrc1, int nSrc1Step, const Npp64f *pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f *pError, Npp8u *pDeviceBuffer)

  Two-channel 64-bit floating point image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_8u_C3R (const Npp8u *pSrc1, int nSrc1Step, const Npp8u *pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f *pError, Npp8u *pDeviceBuffer)

  Three-channel 8-bit unsigned image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_8s_C3R (const Npp8s *pSrc1, int nSrc1Step, const Npp8s *pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f *pError, Npp8u *pDeviceBuffer)

  Three-channel 8-bit signed image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_16u_C3R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit unsigned image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_16s_C3R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit signed image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_16sc_C3R (const Npp16sc ∗pSrc1, int nSrc1Step, const Npp16sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 16-bit signed complex image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_32u_C3R (const Npp32u ∗pSrc1, int nSrc1Step, const Npp32u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit unsigned image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_32s_C3R (const Npp32s ∗pSrc1, int nSrc1Step, const Npp32s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit signed image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_32sc_C3R (const Npp32sc ∗pSrc1, int nSrc1Step, const Npp32sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit signed complex image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_32f_C3R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_32fc_C3R (const Npp32fc ∗pSrc1, int nSrc1Step, const Npp32fc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 32-bit floating point complex image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_64f_C3R (const Npp64f ∗pSrc1, int nSrc1Step, const Npp64f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Three-channel 64-bit floating point image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_8u_C4R (const Npp8u ∗pSrc1, int nSrc1Step, const Npp8u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit unsigned image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_8s_C4R (const Npp8s ∗pSrc1, int nSrc1Step, const Npp8s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 8-bit signed image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_16u_C4R (const Npp16u ∗pSrc1, int nSrc1Step, const Npp16u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit unsigned image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_16s_C4R (const Npp16s ∗pSrc1, int nSrc1Step, const Npp16s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

Four-channel 16-bit signed image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_16sc_C4R (const Npp16sc ∗pSrc1, int nSrc1Step, const Npp16sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 16-bit signed complex image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_32u_C4R (const Npp32u ∗pSrc1, int nSrc1Step, const Npp32u ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit unsigned image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_32s_C4R (const Npp32s ∗pSrc1, int nSrc1Step, const Npp32s ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit signed image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_32sc_C4R (const Npp32sc ∗pSrc1, int nSrc1Step, const Npp32sc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit signed complex image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_32f_C4R (const Npp32f ∗pSrc1, int nSrc1Step, const Npp32f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_32fc_C4R (const Npp32fc ∗pSrc1, int nSrc1Step, const Npp32fc ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 32-bit floating point complex image MaximumRelative_Error.

- NppStatus nppiAverageRelativeError_64f_C4R (const Npp64f ∗pSrc1, int nSrc1Step, const Npp64f ∗pSrc2, int nSrc2Step, NppiSize oSizeROI, Npp64f ∗pError, Npp8u ∗pDeviceBuffer)

  Four-channel 64-bit floating point image MaximumRelative_Error.

7.48.1 Detailed Description

Primitives for computing the average relative error between two images.

Given two images $pSrc1$ and $pSrc2$ both with width W and height H, the maximum relative error is defined as:

$$AverageRelativeError = \frac{1}{W \cdot H \cdot N} \sum_{n=0}^{N-1} \sum_{j=0}^{H-1} \sum_{i=0}^{W-1} \frac{|pSrc1(j,i) - pSrc2(j,i)|}{max(|pSrc1(j,i)|, |pSrc2(j,i)|)}$$

where N is the number of channels. If the image is in complex format, the absolute value is used for computation.

7.48.2 Function Documentation

7.48.2.1 NppStatus nppiAverageRelativeError_16s_C1R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 16-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.2 NppStatus nppiAverageRelativeError_16s_C2R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 16-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16s_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.3 NppStatus nppiAverageRelativeError_16s_C3R (const Npp16s ∗ *pSrc1*, int *nSrc1Step*, const Npp16s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.4 NppStatus nppiAverageRelativeError_16s_C4R (const Npp16s * *pSrc1*, int *nSrc1Step*, const Npp16s * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Four-channel 16-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.5 NppStatus nppiAverageRelativeError_16sc_C1R (const Npp16sc * *pSrc1*, int *nSrc1Step*, const Npp16sc * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

One-channel 16-bit signed complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.6 NppStatus nppiAverageRelativeError_16sc_C2R (const Npp16sc * *pSrc1*, int *nSrc1Step*, const Npp16sc * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Two-channel 16-bit signed complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16s_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.7 NppStatus nppiAverageRelativeError_16sc_C3R (const Npp16sc * *pSrc1*, int *nSrc1Step*, const Npp16sc * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Three-channel 16-bit signed complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.8 NppStatus nppiAverageRelativeError_16sc_C4R (const Npp16sc * *pSrc1*, int *nSrc1Step*, const Npp16sc * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Four-channel 16-bit signed complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.9 NppStatus nppiAverageRelativeError_16u_C1R (const Npp16u * *pSrc1*, int *nSrc1Step*, const Npp16u * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

One-channel 16-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.10 NppStatus nppiAverageRelativeError_16u_C2R (const Npp16u * *pSrc1*, int *nSrc1Step*, const Npp16u * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Two-channel 16-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16u_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.11 NppStatus nppiAverageRelativeError_16u_C3R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 16-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.12 NppStatus nppiAverageRelativeError_16u_C4R (const Npp16u ∗ *pSrc1*, int *nSrc1Step*, const Npp16u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 16-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.13 NppStatus nppiAverageRelativeError_32f_C1R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit floating point image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.48.2.14 NppStatus nppiAverageRelativeError_32f_C2R (const Npp32f ∗ *pSrc1*, int *nSrc1Step*, const Npp32f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 32-bit floating point image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_32f_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.48.2.15 NppStatus nppiAverageRelativeError_32f_C3R (const Npp32f * *pSrc1*, int *nSrc1Step*, const Npp32f * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Three-channel 32-bit floating point image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.48.2.16 NppStatus nppiAverageRelativeError_32f_C4R (const Npp32f * *pSrc1*, int *nSrc1Step*, const Npp32f * *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f * *pError*, Npp8u * *pDeviceBuffer*)

Four-channel 32-bit floating point image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.48.2.17 NppStatus nppiAverageRelativeError_32fc_C1R (const Npp32fc ∗ *pSrc1*, int *nSrc1Step*, const Npp32fc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit floating point complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.48.2.18 NppStatus nppiAverageRelativeError_32fc_C2R (const Npp32fc ∗ *pSrc1*, int *nSrc1Step*, const Npp32fc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 32-bit floating point complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_32f_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.48.2.19 NppStatus nppiAverageRelativeError_32fc_C3R (const Npp32fc ∗ *pSrc1*, int *nSrc1Step*, const Npp32fc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit floating point complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.48.2.20 NppStatus nppiAverageRelativeError_32fc_C4R (const Npp32fc ∗ *pSrc1*, int *nSrc1Step*, const Npp32fc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit floating point complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.48.2.21 NppStatus nppiAverageRelativeError_32s_C1R (const Npp32s ∗ *pSrc1*, int *nSrc1Step*, const Npp32s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.22 NppStatus nppiAverageRelativeError_32s_C2R (const Npp32s ∗ *pSrc1*, int *nSrc1Step*, const Npp32s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 32-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16s_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.23 NppStatus nppiAverageRelativeError_32s_C3R (const Npp32s ∗ *pSrc1*, int *nSrc1Step*, const Npp32s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.24 NppStatus nppiAverageRelativeError_32s_C4R (const Npp32s ∗ *pSrc1*, int *nSrc1Step*, const Npp32s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.25 NppStatus nppiAverageRelativeError_32sc_C1R (const Npp32sc ∗ *pSrc1*, int *nSrc1Step*, const Npp32sc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit signed complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16s_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.26 NppStatus nppiAverageRelativeError_32sc_C2R (const Npp32sc ∗ *pSrc1*, int *nSrc1Step*, const Npp32sc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 32-bit signed complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16s_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.27 NppStatus nppiAverageRelativeError_32sc_C3R (const Npp32sc ∗ *pSrc1*, int *nSrc1Step*, const Npp32sc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit signed complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16s_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.28 NppStatus nppiAverageRelativeError_32sc_C4R (const Npp32sc ∗ *pSrc1*, int *nSrc1Step*, const Npp32sc ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit signed complex image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error (absolute value).

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16s_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.29 NppStatus nppiAverageRelativeError_32u_C1R (const Npp32u ∗ *pSrc1*, int *nSrc1Step*, const Npp32u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 32-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.30 NppStatus nppiAverageRelativeError_32u_C2R (const Npp32u ∗ *pSrc1*, int *nSrc1Step*, const Npp32u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 32-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16u_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.31 NppStatus nppiAverageRelativeError_32u_C3R (const Npp32u ∗ *pSrc1*, int *nSrc1Step*, const Npp32u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 32-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.32 NppStatus nppiAverageRelativeError_32u_C4R (const Npp32u ∗ *pSrc1*, int *nSrc1Step*, const Npp32u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 32-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_16u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.33 NppStatus nppiAverageRelativeError_64f_C1R (const Npp64f ∗ *pSrc1*, int *nSrc1Step*, const Npp64f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 64-bit floating point image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_32f_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.48.2.34 NppStatus nppiAverageRelativeError_64f_C2R (const Npp64f ∗ *pSrc1*, int *nSrc1Step*, const Npp64f ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 64-bit floating point image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_32f_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.48.2.35 NppStatus nppiAverageRelativeError_64f_C3R (const Npp64f $*$ *pSrc1*, int *nSrc1Step*, const Npp64f $*$ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f $*$ *pError*, Npp8u $*$ *pDeviceBuffer*)

Three-channel 64-bit floating point image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_32f_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.48.2.36 NppStatus nppiAverageRelativeError_64f_C4R (const Npp64f $*$ *pSrc1*, int *nSrc1Step*, const Npp64f $*$ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f $*$ *pError*, Npp8u $*$ *pDeviceBuffer*)

Four-channel 64-bit floating point image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_32f_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes, or NPP_NOT_EVEN_STEP_ERROR if an invalid floating-point image is specified.

7.48.2.37 NppStatus nppiAverageRelativeError_8s_C1R (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_8u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.38 NppStatus nppiAverageRelativeError_8s_C2R (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 8-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_8u_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.39 NppStatus nppiAverageRelativeError_8s_C3R (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_8u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.40 NppStatus nppiAverageRelativeError_8s_C4R (const Npp8s ∗ *pSrc1*, int *nSrc1Step*, const Npp8s ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit signed image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_8u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.41 NppStatus nppiAverageRelativeError_8u_C1R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

One-channel 8-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_8u_C1R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.42 NppStatus nppiAverageRelativeError_8u_C2R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Two-channel 8-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_8u_C2R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.43 NppStatus nppiAverageRelativeError_8u_C3R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Three-channel 8-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_8u_C3R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.48.2.44 NppStatus nppiAverageRelativeError_8u_C4R (const Npp8u ∗ *pSrc1*, int *nSrc1Step*, const Npp8u ∗ *pSrc2*, int *nSrc2Step*, NppiSize *oSizeROI*, Npp64f ∗ *pError*, Npp8u ∗ *pDeviceBuffer*)

Four-channel 8-bit unsigned image MaximumRelative_Error.

Parameters:

pSrc1 Source-Image Pointer.

nSrc1Step Source-Image Line Step.

pSrc2 Source-Image Pointer.

nSrc2Step Source-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pError Pointer to the computed error.

pDeviceBuffer Pointer to the required device memory allocation, Scratch Buffer and Host Pointer. Use nppiAverageRelativeErrorGetBufferHostSize_8u_C4R to compute the required size (in bytes).

Returns:

Image Data Related Error Codes, ROI Related Error Codes.

7.49 Linear Transforms

Linear image transformations.

Modules

- Fourier Transforms

7.49.1 Detailed Description

Linear image transformations.

These functions can be found in either the nppi or nppist libraries. Linking to only the sub-libraries that you use can significantly save link time, application load time, and CUDA runtime startup time when using dynamic libraries.

7.50 Fourier Transforms

Functions

- NppStatus nppiMagnitude_32fc32f_C1R (const Npp32fc ∗pSrc, int nSrcStep, Npp32f ∗pDst, int nDstStep, NppiSize oSizeROI)

  32-bit floating point complex to 32-bit floating point magnitude.

- NppStatus nppiMagnitudeSqr_32fc32f_C1R (const Npp32fc ∗pSrc, int nSrcStep, Npp32f ∗pDst, int nDstStep, NppiSize oSizeROI)

  32-bit floating point complex to 32-bit floating point squared magnitude.

7.50.1 Function Documentation

7.50.1.1 NppStatus nppiMagnitude_32fc32f_C1R (const Npp32fc ∗ *pSrc*, int *nSrcStep*, Npp32f ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*)

32-bit floating point complex to 32-bit floating point magnitude.

Converts complex-number pixel image to single channel image computing the result pixels as the magnitude of the complex values.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.50.1.2 NppStatus nppiMagnitudeSqr_32fc32f_C1R (const Npp32fc ∗ *pSrc*, int *nSrcStep*, Npp32f ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*)

32-bit floating point complex to 32-bit floating point squared magnitude.

Converts complex-number pixel image to single channel image computing the result pixels as the squared magnitude of the complex values.

The squared magnitude is an itermediate result of magnitude computation and can thus be computed faster than actual magnitude. If magnitudes are required for sorting/comparing only, using this function instead of nppiMagnitude_32fc32f_C1R can be a worthwhile performance optimization.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

Returns:

Image Data Related Error Codes, ROI Related Error Codes

Chapter 8

Data Structure Documentation

8.1 NPP_ALIGN_16 Struct Reference

Complex Number This struct represents a long long complex number.

```
#include <nppdefs.h>
```

Data Fields

- Npp64s re

  Real part.

- Npp64s im

  Imaginary part.

- Npp64f re

  Real part.

- Npp64f im

  Imaginary part.

8.1.1 Detailed Description

Complex Number This struct represents a long long complex number.

Complex Number This struct represents a double floating-point complex number.

8.1.2 Field Documentation

8.1.2.1 Npp64f NPP_ALIGN_16::im

Imaginary part.

8.1.2.2 Npp64s NPP_ALIGN_16::im

Imaginary part.

8.1.2.3 Npp64f NPP_ALIGN_16::re

Real part.

8.1.2.4 Npp64s NPP_ALIGN_16::re

Real part.

The documentation for this struct was generated from the following file:

- C:/src/sw/rel/gpgpu/toolkit/r8.0/NPP/npp/include/nppdefs.h

8.2 NPP_ALIGN_8 Struct Reference

Complex Number This struct represents an unsigned int complex number.

```
#include <nppdefs.h>
```

Data Fields

- Npp32u re

  Real part.

- Npp32u im

  Imaginary part.

- Npp32s re

  Real part.

- Npp32s im

  Imaginary part.

- Npp32f re

  Real part.

- Npp32f im

  Imaginary part.

8.2.1 Detailed Description

Complex Number This struct represents an unsigned int complex number.

Complex Number This struct represents a single floating-point complex number.

Complex Number This struct represents a signed int complex number.

8.2.2 Field Documentation

8.2.2.1 Npp32f NPP_ALIGN_8::im

Imaginary part.

8.2.2.2 Npp32s NPP_ALIGN_8::im

Imaginary part.

8.2.2.3 Npp32u NPP_ALIGN_8::im

Imaginary part.

8.2.2.4 Npp32f NPP_ALIGN_8::re

Real part.

8.2.2.5 Npp32s NPP_ALIGN_8::re

Real part.

8.2.2.6 Npp32u NPP_ALIGN_8::re

Real part.

The documentation for this struct was generated from the following file:

- C:/src/sw/rel/gpgpu/toolkit/r8.0/NPP/npp/include/nppdefs.h

8.3 NppiHaarBuffer Struct Reference

```
#include <nppdefs.h>
```

Data Fields

- int haarBufferSize

  size of the buffer

- Npp32s ∗ haarBuffer

  buffer

8.3.1 Field Documentation

8.3.1.1 Npp32s∗ NppiHaarBuffer::haarBuffer

buffer

8.3.1.2 int NppiHaarBuffer::haarBufferSize

size of the buffer

The documentation for this struct was generated from the following file:

- C:/src/sw/rel/gpgpu/toolkit/r8.0/NPP/npp/include/nppdefs.h

8.4 NppiHaarClassifier_32f Struct Reference

```
#include <nppdefs.h>
```

Data Fields

- int numClassifiers

  number of classifiers

- Npp32s ∗ classifiers

  packed classifier data 40 bytes each

- size_t classifierStep
- NppiSize classifierSize
- Npp32s ∗ counterDevice

8.4.1 Field Documentation

8.4.1.1 Npp32s∗ NppiHaarClassifier_32f::classifiers

packed classifier data 40 bytes each

8.4.1.2 NppiSize NppiHaarClassifier_32f::classifierSize

8.4.1.3 size_t NppiHaarClassifier_32f::classifierStep

8.4.1.4 Npp32s∗ NppiHaarClassifier_32f::counterDevice

8.4.1.5 int NppiHaarClassifier_32f::numClassifiers

number of classifiers

The documentation for this struct was generated from the following file:

- C:/src/sw/rel/gpgpu/toolkit/r8.0/NPP/npp/include/nppdefs.h

8.5 NppiPoint Struct Reference

2D Point

```
#include <nppdefs.h>
```

Data Fields

- int x

  x-coordinate.

- int y

  y-coordinate.

8.5.1 Detailed Description

2D Point

8.5.2 Field Documentation

8.5.2.1 int NppiPoint::x

x-coordinate.

8.5.2.2 int NppiPoint::y

y-coordinate.

The documentation for this struct was generated from the following file:

- C:/src/sw/rel/gpgpu/toolkit/r8.0/NPP/npp/include/nppdefs.h

8.6 NppiRect Struct Reference

2D Rectangle This struct contains position and size information of a rectangle in two space.

```
#include <nppdefs.h>
```

Data Fields

- int x

  x-coordinate of upper left corner (lowest memory address).

- int y

  y-coordinate of upper left corner (lowest memory address).

- int width

  Rectangle width.

- int height

  Rectangle height.

8.6.1 Detailed Description

2D Rectangle This struct contains position and size information of a rectangle in two space.

The rectangle's position is usually signified by the coordinate of its upper-left corner.

8.6.2 Field Documentation

8.6.2.1 int NppiRect::height

Rectangle height.

8.6.2.2 int NppiRect::width

Rectangle width.

8.6.2.3 int NppiRect::x

x-coordinate of upper left corner (lowest memory address).

8.6.2.4 int NppiRect::y

y-coordinate of upper left corner (lowest memory address).

The documentation for this struct was generated from the following file:

- C:/src/sw/rel/gpgpu/toolkit/r8.0/NPP/npp/include/nppdefs.h

8.7 NppiSize Struct Reference

2D Size This struct typically represents the size of a a rectangular region in two space.

```
#include <nppdefs.h>
```

Data Fields

- int width

  Rectangle width.

- int height

  Rectangle height.

8.7.1 Detailed Description

2D Size This struct typically represents the size of a a rectangular region in two space.

8.7.2 Field Documentation

8.7.2.1 int NppiSize::height

Rectangle height.

8.7.2.2 int NppiSize::width

Rectangle width.

The documentation for this struct was generated from the following file:

- C:/src/sw/rel/gpgpu/toolkit/r8.0/NPP/npp/include/nppdefs.h

8.8 NppLibraryVersion Struct Reference

```
#include <nppdefs.h>
```

Data Fields

- int major

  Major version number.

- int minor

  Minor version number.

- int build

  Build number.

8.8.1 Field Documentation

8.8.1.1 int NppLibraryVersion::build

Build number.

This reflects the nightly build this release was made from.

8.8.1.2 int NppLibraryVersion::major

Major version number.

8.8.1.3 int NppLibraryVersion::minor

Minor version number.

The documentation for this struct was generated from the following file:

- C:/src/sw/rel/gpgpu/toolkit/r8.0/NPP/npp/include/nppdefs.h

Index