NVIDIA Performance Primitives (NPP)

Version 8.0

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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 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 $D_{i,j}$:

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

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:

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

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 Filtering Functions

Linear and non-linear image filtering functions.

Modules

- 1D Linear Filter
- 1D Window Sum
- 1D Window Sum with Border Control
- Convolution
- 2D Fixed Linear Filters
- Rank Filters
- Fixed Filters

  Fixed filters perform linear filtering operations (such as convolutions) with predefined kernels of fixed sizes.

7.4.1 Detailed Description

Linear and non-linear image filtering functions.

Filtering functions are classified as Neighborhood Operations. It is the user's responsibility to avoid Sampling Beyond Image Boundaries.

These functions can be found in either the nppi or nppif 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.

7.5 1D Linear Filter

FilterColumn

Apply convolution filter with user specified 1D column of weights.

Result pixel is equal to the sum of the products between the kernel coefficients (pKernel array) and corresponding neighboring column pixel values in the source image defined by nKernelDim and nAnchorY, divided by nDivisor.

- NppStatus nppiFilterColumn_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  8-bit unsigned single-channel 1D column convolution.

- NppStatus nppiFilterColumn_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  8-bit unsigned three-channel 1D column convolution.

- NppStatus nppiFilterColumn_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  8-bit unsigned four-channel 1D column convolution.

- NppStatus nppiFilterColumn_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  8-bit unsigned four-channel 1D column convolution ignoring alpha-channel.

- NppStatus nppiFilterColumn_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  16-bit unsigned single-channel 1D column convolution.

- NppStatus nppiFilterColumn_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  16-bit unsigned three-channel 1D column convolution.

- NppStatus nppiFilterColumn_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  16-bit unsigned four-channel 1D column convolution.

- NppStatus nppiFilterColumn_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  16-bit unsigned four-channel 1D column convolution ignoring alpha-channel.

- NppStatus nppiFilterColumn_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  16-bit single-channel 1D column convolution.

- NppStatus nppiFilterColumn_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  16-bit three-channel 1D column convolution.

- NppStatus nppiFilterColumn_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  16-bit four-channel 1D column convolution.

- NppStatus nppiFilterColumn_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  16-bit four-channel 1D column convolution ignoring alpha-channel.

- NppStatus nppiFilterColumn_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  32-bit float single-channel 1D column convolution.

- NppStatus nppiFilterColumn_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  32-bit float three-channel 1D column convolution.

- NppStatus nppiFilterColumn_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  32-bit float four-channel 1D column convolution.

- NppStatus nppiFilterColumn_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  32-bit float four-channel 1D column convolution ignoring alpha-channel.

- NppStatus nppiFilterColumn_64f_C1R (const Npp64f ∗pSrc, Npp32s nSrcStep, Npp64f ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp64f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  64-bit float single-channel 1D column convolution.

FilterColumnBorder

General purpose 1D convolution column filter with border control.

Pixels under the mask are multiplied by the respective weights in the mask and the results are summed. Before writing the result pixel the sum is scaled back via division by nDivisor. If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported.

- NppStatus nppiFilterColumnBorder_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Single channel 8-bit unsigned 1D column convolution filter with border control.

- NppStatus nppiFilterColumnBorder_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Three channel 8-bit unsigned 1D column convolution filter with border control.

- NppStatus nppiFilterColumnBorder_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Four channel channel 8-bit unsigned 1D column convolution filter with border control.

- NppStatus nppiFilterColumnBorder_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Four channel 8-bit unsigned convolution 1D column filter with border control, ignoring alpha channel.

- NppStatus nppiFilterColumnBorder_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Single channel 16-bit unsigned convolution 1D column filter with border control.

- NppStatus nppiFilterColumnBorder_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Three channel 16-bit unsigned 1D column convolution filter with border control.

- NppStatus nppiFilterColumnBorder_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Four channel channel 16-bit 1D column unsigned convolution filter with border control.

- NppStatus nppiFilterColumnBorder_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Four channel 16-bit unsigned 1D column convolution filter with border control, ignoring alpha channel.

- NppStatus nppiFilterColumnBorder_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

Single channel 16-bit 1D column convolution filter with border control.

- NppStatus nppiFilterColumnBorder_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Three channel 16-bit 1D column convolution filter with border control.

- NppStatus nppiFilterColumnBorder_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Four channel channel 16-bit 1D column convolution filter with border control.

- NppStatus nppiFilterColumnBorder_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Four channel 16-bit 1D column convolution filter with border control, ignoring alpha channel.

- NppStatus nppiFilterColumnBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Single channel 32-bit float 1D column convolution filter with border control.

- NppStatus nppiFilterColumnBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Three channel 32-bit float 1D column convolution filter with border control.

- NppStatus nppiFilterColumnBorder_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 32-bit float 1D column convolution filter with border control.

- NppStatus nppiFilterColumnBorder_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 32-bit float 1D column convolution filter with border control, ignoring alpha channel.

FilterColumn32f

FilterColumn using floating-point weights.

- NppStatus nppiFilterColumn32f_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  8-bit unsigned single-channel 1D column convolution.

- NppStatus nppiFilterColumn32f_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

8-bit unsigned three-channel 1D column convolution.

- NppStatus nppiFilterColumn32f_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  8-bit unsigned four-channel 1D column convolution.

- NppStatus nppiFilterColumn32f_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  8-bit unsigned four-channel 1D column convolution ignoring alpha-channel.

- NppStatus nppiFilterColumn32f_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  16-bit unsigned single-channel 1D column convolution.

- NppStatus nppiFilterColumn32f_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  16-bit unsigned three-channel 1D column convolution.

- NppStatus nppiFilterColumn32f_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  16-bit unsigned four-channel 1D column convolution.

- NppStatus nppiFilterColumn32f_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  16-bit unsigned four-channel 1D column convolution ignoring alpha-channel.

- NppStatus nppiFilterColumn32f_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  16-bit single-channel 1D column convolution.

- NppStatus nppiFilterColumn32f_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  16-bit three-channel 1D column convolution.

- NppStatus nppiFilterColumn32f_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  16-bit four-channel 1D column convolution.

- NppStatus nppiFilterColumn32f_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  16-bit four-channel 1D column convolution ignoring alpha-channel.

FilterColumnBorder32f

General purpose 1D column convolution filter using floating-point weights with border control.

Pixels under the mask are multiplied by the respective weights in the mask and the results are summed. If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported.

- NppStatus nppiFilterColumnBorder32f_8u_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Single channel 8-bit unsigned 1D column convolution filter with border control.

- NppStatus nppiFilterColumnBorder32f_8u_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Three channel 8-bit unsigned 1D column convolution filter with border control.

- NppStatus nppiFilterColumnBorder32f_8u_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 8-bit unsigned 1D column convolution filter with border control.

- NppStatus nppiFilterColumnBorder32f_8u_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 8-bit unsigned 1D column convolution filter with border control, ignorint alpha channel.

- NppStatus nppiFilterColumnBorder32f_16u_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Single channel 16-bit unsigned 1D column convolution filter with border control.

- NppStatus nppiFilterColumnBorder32f_16u_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Three channel 16-bit unsigned 1D column convolution filter with border control.

- NppStatus nppiFilterColumnBorder32f_16u_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 16-bit unsigned 1D column convolution filter with border control.

- NppStatus nppiFilterColumnBorder32f_16u_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 16-bit unsigned 1D column convolution filter with border control, ignoring alpha channel.

- NppStatus nppiFilterColumnBorder32f_16s_C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Single channel 16-bit 1D column convolution filter with border control.

- NppStatus nppiFilterColumnBorder32f_16s_C3R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Three channel 16-bit 1D column convolution filter with border control.

- NppStatus nppiFilterColumnBorder32f_16s_C4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 16-bit 1D column convolution filter with border control.

- NppStatus nppiFilterColumnBorder32f_16s_AC4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 16-bit 1D column convolution filter with border control, ignoring alpha channel.

FilterRow

Apply convolution filter with user specified 1D row of weights.

Result pixel is equal to the sum of the products between the kernel coefficients (pKernel array) and corresponding neighboring row pixel values in the source image defined by nKernelDim and nAnchorX, divided by nDivisor.

- NppStatus nppiFilterRow_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  8-bit unsigned single-channel 1D row convolution.

- NppStatus nppiFilterRow_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  8-bit unsigned three-channel 1D row convolution.

- NppStatus nppiFilterRow_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  8-bit unsigned four-channel 1D row convolution.

- NppStatus nppiFilterRow_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  8-bit unsigned four-channel 1D row convolution ignoring alpha-channel.

- NppStatus nppiFilterRow_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  16-bit unsigned single-channel 1D row convolution.

- NppStatus nppiFilterRow_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  16-bit unsigned three-channel 1D row convolution.

- NppStatus nppiFilterRow_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  16-bit unsigned four-channel 1D row convolution.

- NppStatus nppiFilterRow_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  16-bit unsigned four-channel 1D row convolution ignoring alpha-channel.

- NppStatus nppiFilterRow_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  16-bit single-channel 1D row convolution.

- NppStatus nppiFilterRow_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  16-bit three-channel 1D row convolution.

- NppStatus nppiFilterRow_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  16-bit four-channel 1D row convolution.

- NppStatus nppiFilterRow_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor)

  16-bit four-channel 1D row convolution ignoring alpha-channel.

- NppStatus nppiFilterRow_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  32-bit float single-channel 1D row convolution.

- NppStatus nppiFilterRow_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  32-bit float three-channel 1D row convolution.

- NppStatus nppiFilterRow_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  32-bit float four-channel 1D row convolution.

- NppStatus nppiFilterRow_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  32-bit float four-channel 1D row convolution ignoring alpha-channel.

- NppStatus nppiFilterRow_64f_C1R (const Npp64f ∗pSrc, Npp32s nSrcStep, Npp64f ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp64f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  64-bit float single-channel 1D row convolution.

FilterRowBorder

General purpose 1D convolution row filter with border control.

Pixels under the mask are multiplied by the respective weights in the mask and the results are summed. Before writing the result pixel the sum is scaled back via division by nDivisor. If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported.

- NppStatus nppiFilterRowBorder_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Single channel 8-bit unsigned 1D row convolution filter with border control.

- NppStatus nppiFilterRowBorder_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Three channel 8-bit unsigned 1D row convolution filter with border control.

- NppStatus nppiFilterRowBorder_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Four channel channel 8-bit unsigned 1D row convolution filter with border control.

- NppStatus nppiFilterRowBorder_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Four channel 8-bit unsigned convolution 1D row filter with border control, ignoring alpha channel.

- NppStatus nppiFilterRowBorder_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Single channel 16-bit unsigned convolution 1D row filter with border control.

- NppStatus nppiFilterRowBorder_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Three channel 16-bit unsigned 1D row convolution filter with border control.

- NppStatus nppiFilterRowBorder_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Four channel channel 16-bit 1D row unsigned convolution filter with border control.

- NppStatus nppiFilterRowBorder_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Four channel 16-bit unsigned 1D row convolution filter with border control, ignoring alpha channel.

- NppStatus nppiFilterRowBorder_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Single channel 16-bit 1D row convolution filter with border control.

- NppStatus nppiFilterRowBorder_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Three channel 16-bit 1D row convolution filter with border control.

- NppStatus nppiFilterRowBorder_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Four channel channel 16-bit 1D row convolution filter with border control.

- NppStatus nppiFilterRowBorder_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Four channel 16-bit 1D row convolution filter with border control, ignoring alpha channel.

- NppStatus nppiFilterRowBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Single channel 32-bit float 1D row convolution filter with border control.

- NppStatus nppiFilterRowBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Three channel 32-bit float 1D row convolution filter with border control.

- NppStatus nppiFilterRowBorder_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 32-bit float 1D row convolution filter with border control.

- NppStatus nppiFilterRowBorder_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 32-bit float 1D row convolution filter with border control, ignoring alpha channel.

FilterRow32f

FilterRow using floating-point weights.

- NppStatus nppiFilterRow32f_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  8-bit unsigned single-channel 1D row convolution.

- NppStatus nppiFilterRow32f_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  8-bit unsigned three-channel 1D row convolution.

- NppStatus nppiFilterRow32f_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  8-bit unsigned four-channel 1D row convolution.

- NppStatus nppiFilterRow32f_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  8-bit unsigned four-channel 1D row convolution ignoring alpha-channel.

- NppStatus nppiFilterRow32f_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  16-bit unsigned single-channel 1D row convolution.

- NppStatus nppiFilterRow32f_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  16-bit unsigned three-channel 1D row convolution.

- NppStatus nppiFilterRow32f_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  16-bit unsigned four-channel 1D row convolution.

- NppStatus nppiFilterRow32f_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  16-bit unsigned four-channel 1D row convolution ignoring alpha-channel.

- NppStatus nppiFilterRow32f_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  16-bit single-channel 1D row convolution.

- NppStatus nppiFilterRow32f_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  16-bit three-channel 1D row convolution.

- NppStatus nppiFilterRow32f_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  16-bit four-channel 1D row convolution.

- NppStatus nppiFilterRow32f_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor)

  16-bit four-channel 1D row convolution ignoring alpha-channel.

FilterRowBorder32f

General purpose 1D row convolution filter using floating-point weights with border control.

Pixels under the mask are multiplied by the respective weights in the mask and the results are summed. If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported.

- NppStatus nppiFilterRowBorder32f_8u_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Single channel 8-bit unsigned 1D row convolution filter with border control.

- NppStatus nppiFilterRowBorder32f_8u_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Three channel 8-bit unsigned 1D row convolution filter with border control.

- NppStatus nppiFilterRowBorder32f_8u_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 8-bit unsigned 1D row convolution filter with border control.

- NppStatus nppiFilterRowBorder32f_8u_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 8-bit unsigned 1D row convolution filter with border control, ignorint alpha channel.

- NppStatus nppiFilterRowBorder32f_16u_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Single channel 16-bit unsigned 1D row convolution filter with border control.

- NppStatus nppiFilterRowBorder32f_16u_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Three channel 16-bit unsigned 1D row convolution filter with border control.

- NppStatus nppiFilterRowBorder32f_16u_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 16-bit unsigned 1D row convolution filter with border control.

- NppStatus nppiFilterRowBorder32f_16u_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 16-bit unsigned 1D row convolution filter with border control, ignoring alpha channel.

- NppStatus nppiFilterRowBorder32f_16s_C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

Single channel 16-bit 1D row convolution filter with border control.

- NppStatus nppiFilterRowBorder32f_16s_C3R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Three channel 16-bit 1D row convolution filter with border control.

- NppStatus nppiFilterRowBorder32f_16s_C4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 16-bit 1D row convolution filter with border control.

- NppStatus nppiFilterRowBorder32f_16s_AC4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 16-bit 1D row convolution filter with border control, ignoring alpha channel.

7.5.1 Function Documentation

7.5.1.1 NppStatus nppiFilterColumn32f_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

16-bit four-channel 1D column convolution ignoring alpha-channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.2 NppStatus nppiFilterColumn32f_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

16-bit single-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.3 NppStatus nppiFilterColumn32f_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

16-bit three-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.4 NppStatus nppiFilterColumn32f_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

16-bit four-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.5 NppStatus nppiFilterColumn32f_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

16-bit unsigned four-channel 1D column convolution ignoring alpha-channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.6 NppStatus nppiFilterColumn32f_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

16-bit unsigned single-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.7 NppStatus nppiFilterColumn32f_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

16-bit unsigned three-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.8 NppStatus nppiFilterColumn32f_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

16-bit unsigned four-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.9 NppStatus nppiFilterColumn32f_8u_AC4R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f $*$ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

8-bit unsigned four-channel 1D column convolution ignoring alpha-channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.10 NppStatus nppiFilterColumn32f_8u_C1R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f $*$ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

8-bit unsigned single-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.11 NppStatus nppiFilterColumn32f_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

8-bit unsigned three-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.12 NppStatus nppiFilterColumn32f_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

8-bit unsigned four-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.13 NppStatus nppiFilterColumn_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

16-bit four-channel 1D column convolution ignoring alpha-channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.14 NppStatus nppiFilterColumn_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

16-bit single-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.15 NppStatus nppiFilterColumn_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

16-bit three-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.16 NppStatus nppiFilterColumn_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

16-bit four-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.17 NppStatus nppiFilterColumn_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

16-bit unsigned four-channel 1D column convolution ignoring alpha-channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.18 NppStatus nppiFilterColumn_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

16-bit unsigned single-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.19 NppStatus nppiFilterColumn_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

16-bit unsigned three-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.20 NppStatus nppiFilterColumn_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

16-bit unsigned four-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.21 NppStatus nppiFilterColumn_32f_AC4R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f $*$ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

32-bit float four-channel 1D column convolution ignoring alpha-channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.22 NppStatus nppiFilterColumn_32f_C1R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f $*$ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

32-bit float single-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.23 NppStatus nppiFilterColumn_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

32-bit float three-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.24 NppStatus nppiFilterColumn_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

32-bit float four-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.25 NppStatus nppiFilterColumn_64f_C1R (const Npp64f ∗ *pSrc*, Npp32s *nSrcStep*, Npp64f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp64f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

64-bit float single-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.26 NppStatus nppiFilterColumn_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

8-bit unsigned four-channel 1D column convolution ignoring alpha-channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.27 NppStatus nppiFilterColumn_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

8-bit unsigned single-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.28 NppStatus nppiFilterColumn_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

8-bit unsigned three-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.29 NppStatus nppiFilterColumn_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

8-bit unsigned four-channel 1D column convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.30 NppStatus nppiFilterColumnBorder32f_16s_AC4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit 1D column convolution filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.31 NppStatus nppiFilterColumnBorder32f_16s_C1R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Single channel 16-bit 1D column convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.32 NppStatus nppiFilterColumnBorder32f_16s_C3R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Three channel 16-bit 1D column convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.33 NppStatus nppiFilterColumnBorder32f_16s_C4R (const Npp16s * *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f * *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit 1D column convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.34 NppStatus nppiFilterColumnBorder32f_16u_AC4R (const Npp16u * *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u * *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f * *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned 1D column convolution filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.35 NppStatus nppiFilterColumnBorder32f_16u_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Single channel 16-bit unsigned 1D column convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.36 NppStatus nppiFilterColumnBorder32f_16u_C3R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Three channel 16-bit unsigned 1D column convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.37 NppStatus nppiFilterColumnBorder32f_16u_C4R (const Npp16u * *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u * *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f * *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned 1D column convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.38 NppStatus nppiFilterColumnBorder32f_8u_AC4R (const Npp8u * *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u * *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f * *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned 1D column convolution filter with border control, ignorint alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.39 NppStatus nppiFilterColumnBorder32f_8u_C1R (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned 1D column convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.40 NppStatus nppiFilterColumnBorder32f_8u_C3R (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned 1D column convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.41 NppStatus nppiFilterColumnBorder32f_8u_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned 1D column convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.42 NppStatus nppiFilterColumnBorder_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Four channel 16-bit 1D column convolution filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.43 NppStatus nppiFilterColumnBorder_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Single channel 16-bit 1D column convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.44 NppStatus nppiFilterColumnBorder_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Three channel 16-bit 1D column convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.45 NppStatus nppiFilterColumnBorder_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Four channel channel 16-bit 1D column convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.46 NppStatus nppiFilterColumnBorder_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned 1D column convolution filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.47 NppStatus nppiFilterColumnBorder_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Single channel 16-bit unsigned convolution 1D column filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.48 NppStatus nppiFilterColumnBorder_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Three channel 16-bit unsigned 1D column convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.49 NppStatus nppiFilterColumnBorder_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Four channel channel 16-bit 1D column unsigned convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.50 NppStatus nppiFilterColumnBorder_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 32-bit float 1D column convolution filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.51 NppStatus nppiFilterColumnBorder_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Single channel 32-bit float 1D column convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.52 NppStatus nppiFilterColumnBorder_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Three channel 32-bit float 1D column convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.53 NppStatus nppiFilterColumnBorder_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 32-bit float 1D column convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.54 NppStatus nppiFilterColumnBorder_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned convolution 1D column filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.55 NppStatus nppiFilterColumnBorder_8u_C1R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s * *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned 1D column convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.56 NppStatus nppiFilterColumnBorder_8u_C3R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s * *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned 1D column convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.57 NppStatus nppiFilterColumnBorder_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Four channel channel 8-bit unsigned 1D column convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.58 NppStatus nppiFilterRow32f_16s_AC4R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f * *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

16-bit four-channel 1D row convolution ignoring alpha-channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.59 NppStatus nppiFilterRow32f_16s_C1R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f * *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

16-bit single-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.60 NppStatus nppiFilterRow32f_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

16-bit three-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.61 NppStatus nppiFilterRow32f_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

16-bit four-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.62 NppStatus nppiFilterRow32f_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

16-bit unsigned four-channel 1D row convolution ignoring alpha-channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.63 NppStatus nppiFilterRow32f_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

16-bit unsigned single-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.64 NppStatus nppiFilterRow32f_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

16-bit unsigned three-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.65 NppStatus nppiFilterRow32f_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

16-bit unsigned four-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.66 NppStatus nppiFilterRow32f_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

8-bit unsigned four-channel 1D row convolution ignoring alpha-channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.67 NppStatus nppiFilterRow32f_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

8-bit unsigned single-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.68 NppStatus nppiFilterRow32f_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

8-bit unsigned three-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.69 NppStatus nppiFilterRow32f_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

8-bit unsigned four-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.70 NppStatus nppiFilterRow_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

16-bit four-channel 1D row convolution ignoring alpha-channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.71 NppStatus nppiFilterRow_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

16-bit single-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.72 NppStatus nppiFilterRow_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

16-bit three-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.73 NppStatus nppiFilterRow_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

16-bit four-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.74 NppStatus nppiFilterRow_16u_AC4R (const Npp16u $*$ *pSrc*, Npp32s *nSrcStep*, Npp16u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s $*$ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

16-bit unsigned four-channel 1D row convolution ignoring alpha-channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.75 NppStatus nppiFilterRow_16u_C1R (const Npp16u $*$ *pSrc*, Npp32s *nSrcStep*, Npp16u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s $*$ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

16-bit unsigned single-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.76 NppStatus nppiFilterRow_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

16-bit unsigned three-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.77 NppStatus nppiFilterRow_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

16-bit unsigned four-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.78 NppStatus nppiFilterRow_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

32-bit float four-channel 1D row convolution ignoring alpha-channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.79 NppStatus nppiFilterRow_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

32-bit float single-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.80 NppStatus nppiFilterRow_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

32-bit float three-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.81 NppStatus nppiFilterRow_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

32-bit float four-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.82 NppStatus nppiFilterRow_64f_C1R (const Npp64f ∗ *pSrc*, Npp32s *nSrcStep*, Npp64f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp64f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

64-bit float single-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.83 NppStatus nppiFilterRow_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

8-bit unsigned four-channel 1D row convolution ignoring alpha-channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.84 NppStatus nppiFilterRow_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

8-bit unsigned single-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.85 NppStatus nppiFilterRow_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

8-bit unsigned three-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.86 NppStatus nppiFilterRow_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*)

8-bit unsigned four-channel 1D row convolution.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coefficients are expected to be stored in reverse order.

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.87 NppStatus nppiFilterRowBorder32f_16s_AC4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit 1D row convolution filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.88 NppStatus nppiFilterRowBorder32f_16s_C1R (const Npp16s * *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f * *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Single channel 16-bit 1D row convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.89 NppStatus nppiFilterRowBorder32f_16s_C3R (const Npp16s * *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f * *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Three channel 16-bit 1D row convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.90 NppStatus nppiFilterRowBorder32f_16s_C4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit 1D row convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.91 NppStatus nppiFilterRowBorder32f_16u_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned 1D row convolution filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.92 NppStatus nppiFilterRowBorder32f_16u_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Single channel 16-bit unsigned 1D row convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.93 NppStatus nppiFilterRowBorder32f_16u_C3R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Three channel 16-bit unsigned 1D row convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.94 NppStatus nppiFilterRowBorder32f_16u_C4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned 1D row convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.95 NppStatus nppiFilterRowBorder32f_8u_AC4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned 1D row convolution filter with border control, ignorint alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.96 NppStatus nppiFilterRowBorder32f_8u_C1R (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned 1D row convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.97 NppStatus nppiFilterRowBorder32f_8u_C3R (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned 1D row convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.98 NppStatus nppiFilterRowBorder32f_8u_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned 1D row convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.99 NppStatus nppiFilterRowBorder_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Four channel 16-bit 1D row convolution filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.100 NppStatus nppiFilterRowBorder_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Single channel 16-bit 1D row convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.101 NppStatus nppiFilterRowBorder_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Three channel 16-bit 1D row convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.102 NppStatus nppiFilterRowBorder_16s_C4R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s $*$ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Four channel channel 16-bit 1D row convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.103 NppStatus nppiFilterRowBorder_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned 1D row convolution filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.104 NppStatus nppiFilterRowBorder_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Single channel 16-bit unsigned convolution 1D row filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.105 NppStatus nppiFilterRowBorder_16u_C3R (const Npp16u $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s $*$ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Three channel 16-bit unsigned 1D row convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.106 NppStatus nppiFilterRowBorder_16u_C4R (const Npp16u $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s $*$ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Four channel channel 16-bit 1D row unsigned convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.107 NppStatus nppiFilterRowBorder_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 32-bit float 1D row convolution filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.108 NppStatus nppiFilterRowBorder_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Single channel 32-bit float 1D row convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.109 NppStatus nppiFilterRowBorder_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Three channel 32-bit float 1D row convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.110 NppStatus nppiFilterRowBorder_32f_C4R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32f * *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 32-bit float 1D row convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.111 NppStatus nppiFilterRowBorder_8u_AC4R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s * *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned convolution 1D row filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.112 NppStatus nppiFilterRowBorder_8u_C1R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s * *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned 1D row convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.113 NppStatus nppiFilterRowBorder_8u_C3R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s * *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned 1D row convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.5.1.114 NppStatus nppiFilterRowBorder_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, Npp32s *nMaskSize*, Npp32s *nAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Four channel channel 8-bit unsigned 1D row convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

nMaskSize Width of the kernel.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6 1D Window Sum

1D Window Sum

1D mask Window Sum for 8 and 16 bit images.

- NppStatus nppiSumWindowColumn_8u32f_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor)

  One channel 8-bit unsigned 1D (column) sum to 32f.

- NppStatus nppiSumWindowColumn_8u32f_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor)

  Three channel 8-bit unsigned 1D (column) sum to 32f.

- NppStatus nppiSumWindowColumn_8u32f_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor)

  Four channel 8-bit unsigned 1D (column) sum to 32f.

- NppStatus nppiSumWindowColumn_16u32f_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor)

  One channel 16-bit unsigned 1D (column) sum to 32f.

- NppStatus nppiSumWindowColumn_16u32f_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor)

  Three channel 16-bit unsigned 1D (column) sum to 32f.

- NppStatus nppiSumWindowColumn_16u32f_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor)

  Four channel 16-bit unsigned 1D (column) sum to 32f.

- NppStatus nppiSumWindowColumn_16s32f_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor)

  One channel 16-bit signed 1D (column) sum to 32f.

- NppStatus nppiSumWindowColumn_16s32f_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor)

  Three channel 16-bit signed 1D (column) sum to 32f.

- NppStatus nppiSumWindowColumn_16s32f_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor)

  Four channel 16-bit signed 1D (column) sum to 32f.

- NppStatus nppiSumWindowRow_8u32f_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor)

  One channel 8-bit unsigned 1D (row) sum to 32f.

- NppStatus nppiSumWindowRow_8u32f_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor)

  Three channel 8-bit unsigned 1D (row) sum to 32f.

- NppStatus nppiSumWindowRow_8u32f_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor)

  Four channel 8-bit unsigned 1D (row) sum to 32f.

- NppStatus nppiSumWindowRow_16u32f_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor)

  One channel 16-bit unsigned 1D (row) sum to 32f.

- NppStatus nppiSumWindowRow_16u32f_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor)

  Three channel 16-bit unsigned 1D (row) sum to 32f.

- NppStatus nppiSumWindowRow_16u32f_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor)

  Four channel 16-bit unsigned 1D (row) sum to 32f.

- NppStatus nppiSumWindowRow_16s32f_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor)

  One channel 16-bit signed 1D (row) sum to 32f.

- NppStatus nppiSumWindowRow_16s32f_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor)

  Three channel 16-bit signed 1D (row) sum to 32f.

- NppStatus nppiSumWindowRow_16s32f_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor)

  Four channel 16-bit signed 1D (row) sum to 32f.

7.6.1 Function Documentation

7.6.1.1 NppStatus nppiSumWindowColumn_16s32f_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

One channel 16-bit signed 1D (column) sum to 32f.

Apply Column Window Summation filter over a 1D mask region around each source pixel for 1-channel 16 bit/pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring column pixel values in a mask region of the source image defined by nMaskSize and nAnchor.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.1.2 NppStatus nppiSumWindowColumn_16s32f_C3R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

Three channel 16-bit signed 1D (column) sum to 32f.

Apply Column Window Summation filter over a 1D mask region around each source pixel for 1-channel 16 bit/pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring column pixel values in a mask region of the source image defined by nMaskSize and nAnchor.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.1.3 NppStatus nppiSumWindowColumn_16s32f_C4R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

Four channel 16-bit signed 1D (column) sum to 32f.

Apply Column Window Summation filter over a 1D mask region around each source pixel for 4-channel 16 bit/pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring column pixel values in a mask region of the source image defined by nMaskSize and nAnchor.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.1.4 NppStatus nppiSumWindowColumn_16u32f_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

One channel 16-bit unsigned 1D (column) sum to 32f.

Apply Column Window Summation filter over a 1D mask region around each source pixel for 1-channel 16 bit/pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring column pixel values in a mask region of the source image defined by nMaskSize and nAnchor.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.1.5 NppStatus nppiSumWindowColumn_16u32f_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

Three channel 16-bit unsigned 1D (column) sum to 32f.

Apply Column Window Summation filter over a 1D mask region around each source pixel for 3-channel 16 bit/pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring column pixel values in a mask region of the source image defined by nMaskSize and nAnchor.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.1.6 NppStatus nppiSumWindowColumn_16u32f_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

Four channel 16-bit unsigned 1D (column) sum to 32f.

Apply Column Window Summation filter over a 1D mask region around each source pixel for 4-channel 16 bit/pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring column pixel values in a mask region of the source image defined by nMaskSize and nAnchor.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.1.7 NppStatus nppiSumWindowColumn_8u32f_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

One channel 8-bit unsigned 1D (column) sum to 32f.

Apply Column Window Summation filter over a 1D mask region around each source pixel for 1-channel 8 bit/pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring column pixel values in a mask region of the source image defined by nMaskSize and nAnchor.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.1.8 NppStatus nppiSumWindowColumn_8u32f_C3R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

Three channel 8-bit unsigned 1D (column) sum to 32f.

Apply Column Window Summation filter over a 1D mask region around each source pixel for 3-channel 8 bit/pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring column pixel values in a mask region of the source image defined by nMaskSize and nAnchor.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.1.9 NppStatus nppiSumWindowColumn_8u32f_C4R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

Four channel 8-bit unsigned 1D (column) sum to 32f.

Apply Column Window Summation filter over a 1D mask region around each source pixel for 4-channel 8 bit/pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring column pixel values in a mask region of the source image defined by nMaskSize and nAnchor.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.1.10 NppStatus nppiSumWindowRow_16s32f_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

One channel 16-bit signed 1D (row) sum to 32f.

Apply Row Window Summation filter over a 1D mask region around each source pixel for 1-channel 16-bit pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring row pixel values in a mask region of the source image defined by iKernelDim and iAnchorX.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.1.11 NppStatus nppiSumWindowRow_16s32f_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

Three channel 16-bit signed 1D (row) sum to 32f.

Apply Row Window Summation filter over a 1D mask region around each source pixel for 3-channel 16-bit pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring row pixel values in a mask region of the source image defined by iKernelDim and iAnchorX.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.1.12 NppStatus nppiSumWindowRow_16s32f_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

Four channel 16-bit signed 1D (row) sum to 32f.

Apply Row Window Summation filter over a 1D mask region around each source pixel for 4-channel 16-bit pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring row pixel values in a mask region of the source image defined by iKernelDim and iAnchorX.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.1.13 NppStatus nppiSumWindowRow_16u32f_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

One channel 16-bit unsigned 1D (row) sum to 32f.

Apply Row Window Summation filter over a 1D mask region around each source pixel for 1-channel 16-bit pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring row pixel values in a mask region of the source image defined by iKernelDim and iAnchorX.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.1.14 NppStatus nppiSumWindowRow_16u32f_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

Three channel 16-bit unsigned 1D (row) sum to 32f.

Apply Row Window Summation filter over a 1D mask region around each source pixel for 3-channel 16-bit pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring row pixel values in a mask region of the source image defined by iKernelDim and iAnchorX.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.1.15 NppStatus nppiSumWindowRow_16u32f_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

Four channel 16-bit unsigned 1D (row) sum to 32f.

Apply Row Window Summation filter over a 1D mask region around each source pixel for 4-channel 16-bit pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring row pixel values in a mask region of the source image defined by iKernelDim and iAnchorX.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.1.16 NppStatus nppiSumWindowRow_8u32f_C1R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

One channel 8-bit unsigned 1D (row) sum to 32f.

Apply Row Window Summation filter over a 1D mask region around each source pixel for 1-channel 8-bit pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring row pixel values in a mask region of the source image defined by iKernelDim and iAnchorX.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.1.17 NppStatus nppiSumWindowRow_8u32f_C3R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

Three channel 8-bit unsigned 1D (row) sum to 32f.

Apply Row Window Summation filter over a 1D mask region around each source pixel for 3-channel 8-bit pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring row pixel values in a mask region of the source image defined by iKernelDim and iAnchorX.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.6.1.18 NppStatus nppiSumWindowRow_8u32f_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*)

Four channel 8-bit unsigned 1D (row) sum to 32f.

Apply Row Window Summation filter over a 1D mask region around each source pixel for 4-channel 8-bit pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring row pixel values in a mask region of the source image defined by iKernelDim and iAnchorX.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7 1D Window Sum with Border Control

1D Window Sum Border

1D mask Window Sum for 8 and 16 bit images with border control.

If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported.

- NppStatus nppiSumWindowColumnBorder_8u32f_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  One channel 8-bit unsigned 1D (column) sum to 32f with border control.

- NppStatus nppiSumWindowColumnBorder_8u32f_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Three channel 8-bit unsigned 1D (column) sum to 32f with border control.

- NppStatus nppiSumWindowColumnBorder_8u32f_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 8-bit unsigned 1D (column) sum to 32f with border control.

- NppStatus nppiSumWindowColumnBorder_16u32f_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  One channel 16-bit unsigned 1D (column) sum to 32f with border control.

- NppStatus nppiSumWindowColumnBorder_16u32f_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Three channel 16-bit unsigned 1D (column) sum to 32f with border control.

- NppStatus nppiSumWindowColumnBorder_16u32f_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 16-bit unsigned 1D (column) sum to 32f with border control.

- NppStatus nppiSumWindowColumnBorder_16s32f_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  One channel 16-bit signed 1D (column) sum to 32f with border control.

- NppStatus nppiSumWindowColumnBorder_16s32f_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Three channel 16-bit signed 1D (column) sum to 32f with border control.

- NppStatus nppiSumWindowColumnBorder_16s32f_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 16-bit signed 1D (column) sum to 32f with border control.

- NppStatus nppiSumWindowRowBorder_8u32f_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  One channel 8-bit unsigned 1D (row) sum to 32f with border control.

- NppStatus nppiSumWindowRowBorder_8u32f_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Three channel 8-bit unsigned 1D (row) sum to 32f with border control.

- NppStatus nppiSumWindowRowBorder_8u32f_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 8-bit unsigned 1D (row) sum to 32f with border control.

- NppStatus nppiSumWindowRowBorder_16u32f_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  One channel 16-bit unsigned 1D (row) sum to 32f with border control.

- NppStatus nppiSumWindowRowBorder_16u32f_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Three channel 16-bit unsigned 1D (row) sum to 32f with border control.

- NppStatus nppiSumWindowRowBorder_16u32f_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 16-bit unsigned 1D (row) sum to 32f with border control.

- NppStatus nppiSumWindowRowBorder_16s32f_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  One channel 16-bit signed 1D (row) sum to 32f with border control.

- NppStatus nppiSumWindowRowBorder_16s32f_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Three channel 16-bit signed 1D (row) sum to 32f with border control.

- NppStatus nppiSumWindowRowBorder_16s32f_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oROI, Npp32s nMaskSize, Npp32s nAnchor, NppiBorderType eBorderType)

  Four channel 16-bit signed 1D (row) sum to 32f with border control.

7.7.1 Function Documentation

7.7.1.1 NppStatus nppiSumWindowColumnBorder_16s32f_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

One channel 16-bit signed 1D (column) sum to 32f with border control.

Apply Column Window Summation filter over a 1D mask region around each source pixel for 1-channel 16 bit/pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring column pixel values in a mask region of the source image defined by nMaskSize and nAnchor.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.1.2 NppStatus nppiSumWindowColumnBorder_16s32f_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Three channel 16-bit signed 1D (column) sum to 32f with border control.

Apply Column Window Summation filter over a 1D mask region around each source pixel for 1-channel 16 bit/pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring column pixel values in a mask region of the source image defined by nMaskSize and nAnchor.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.1.3 NppStatus nppiSumWindowColumnBorder_16s32f_C4R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit signed 1D (column) sum to 32f with border control.

Apply Column Window Summation filter over a 1D mask region around each source pixel for 4-channel 16 bit/pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring column pixel values in a mask region of the source image defined by nMaskSize and nAnchor.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.1.4 NppStatus nppiSumWindowColumnBorder_16u32f_C1R (const Npp16u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

One channel 16-bit unsigned 1D (column) sum to 32f with border control.

Apply Column Window Summation filter over a 1D mask region around each source pixel for 1-channel 16 bit/pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring column pixel values in a mask region of the source image defined by nMaskSize and nAnchor.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.1.5 NppStatus nppiSumWindowColumnBorder_16u32f_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Three channel 16-bit unsigned 1D (column) sum to 32f with border control.

Apply Column Window Summation filter over a 1D mask region around each source pixel for 3-channel 16 bit/pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring column pixel values in a mask region of the source image defined by nMaskSize and nAnchor.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.1.6 NppStatus nppiSumWindowColumnBorder_16u32f_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned 1D (column) sum to 32f with border control.

Apply Column Window Summation filter over a 1D mask region around each source pixel for 4-channel 16 bit/pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring column pixel values in a mask region of the source image defined by nMaskSize and nAnchor.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.1.7 NppStatus nppiSumWindowColumnBorder_8u32f_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

One channel 8-bit unsigned 1D (column) sum to 32f with border control.

Apply Column Window Summation filter over a 1D mask region around each source pixel for 1-channel 8 bit/pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring column pixel values in a mask region of the source image defined by nMaskSize and nAnchor.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.1.8 NppStatus nppiSumWindowColumnBorder_8u32f_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned 1D (column) sum to 32f with border control.

Apply Column Window Summation filter over a 1D mask region around each source pixel for 3-channel 8 bit/pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring column pixel values in a mask region of the source image defined by nMaskSize and nAnchor.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.1.9 NppStatus nppiSumWindowColumnBorder_8u32f_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned 1D (column) sum to 32f with border control.

Apply Column Window Summation filter over a 1D mask region around each source pixel for 4-channel 8 bit/pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring column pixel values in a mask region of the source image defined by nMaskSize and nAnchor.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor Y offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.1.10 NppStatus nppiSumWindowRowBorder_16s32f_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

One channel 16-bit signed 1D (row) sum to 32f with border control.

Apply Row Window Summation filter over a 1D mask region around each source pixel for 1-channel 16-bit pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring row pixel values in a mask region of the source image defined by iKernelDim and iAnchorX.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.1.11 NppStatus nppiSumWindowRowBorder_16s32f_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Three channel 16-bit signed 1D (row) sum to 32f with border control.

Apply Row Window Summation filter over a 1D mask region around each source pixel for 3-channel 16-bit pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring row pixel values in a mask region of the source image defined by iKernelDim and iAnchorX.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.1.12 NppStatus nppiSumWindowRowBorder_16s32f_C4R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit signed 1D (row) sum to 32f with border control.

Apply Row Window Summation filter over a 1D mask region around each source pixel for 4-channel 16-bit pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring row pixel values in a mask region of the source image defined by iKernelDim and iAnchorX.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.1.13 NppStatus nppiSumWindowRowBorder_16u32f_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

One channel 16-bit unsigned 1D (row) sum to 32f with border control.

Apply Row Window Summation filter over a 1D mask region around each source pixel for 1-channel 16-bit pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring row pixel values in a mask region of the source image defined by iKernelDim and iAnchorX.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.1.14 NppStatus nppiSumWindowRowBorder_16u32f_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Three channel 16-bit unsigned 1D (row) sum to 32f with border control.

Apply Row Window Summation filter over a 1D mask region around each source pixel for 3-channel 16-bit pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring row pixel values in a mask region of the source image defined by iKernelDim and iAnchorX.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.1.15 NppStatus nppiSumWindowRowBorder_16u32f_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned 1D (row) sum to 32f with border control.

Apply Row Window Summation filter over a 1D mask region around each source pixel for 4-channel 16-bit pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring row pixel values in a mask region of the source image defined by iKernelDim and iAnchorX.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.1.16 NppStatus nppiSumWindowRowBorder_8u32f_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

One channel 8-bit unsigned 1D (row) sum to 32f with border control.

Apply Row Window Summation filter over a 1D mask region around each source pixel for 1-channel 8-bit pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring row pixel values in a mask region of the source image defined by iKernelDim and iAnchorX.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.1.17 NppStatus nppiSumWindowRowBorder_8u32f_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned 1D (row) sum to 32f with border control.

Apply Row Window Summation filter over a 1D mask region around each source pixel for 3-channel 8-bit pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring row pixel values in a mask region of the source image defined by iKernelDim and iAnchorX.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.7.1.18 NppStatus nppiSumWindowRowBorder_8u32f_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oROI*, Npp32s *nMaskSize*, Npp32s *nAnchor*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned 1D (row) sum to 32f with border control.

Apply Row Window Summation filter over a 1D mask region around each source pixel for 4-channel 8-bit pixel input images with 32-bit floating point output. Result 32-bit floating point pixel is equal to the sum of the corresponding and neighboring row pixel values in a mask region of the source image defined by iKernelDim and iAnchorX.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oROI Region-of-Interest (ROI).

nMaskSize Length of the linear kernel array.

nAnchor X offset of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8 Convolution

Filter

General purpose 2D convolution filter.

Pixels under the mask are multiplied by the respective weights in the mask and the results are summed. Before writing the result pixel the sum is scaled back via division by nDivisor.

- NppStatus nppiFilter_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor)

  Single channel 8-bit unsigned convolution filter.

- NppStatus nppiFilter_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor)

  Three channel 8-bit unsigned convolution filter.

- NppStatus nppiFilter_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor)

  Four channel channel 8-bit unsigned convolution filter.

- NppStatus nppiFilter_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor)

  Four channel 8-bit unsigned convolution filter, ignoring alpha channel.

- NppStatus nppiFilter_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor)

  Single channel 16-bit unsigned convolution filter.

- NppStatus nppiFilter_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor)

  Three channel 16-bit unsigned convolution filter.

- NppStatus nppiFilter_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor)

  Four channel channel 16-bit unsigned convolution filter.

- NppStatus nppiFilter_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor)

  Four channel 16-bit unsigned convolution filter, ignoring alpha channel.

- NppStatus nppiFilter_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor)

Single channel 16-bit convolution filter.

- NppStatus nppiFilter_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor)

  Three channel 16-bit convolution filter.

- NppStatus nppiFilter_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor)

  Four channel channel 16-bit convolution filter.

- NppStatus nppiFilter_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor)

  Four channel 16-bit convolution filter, ignoring alpha channel.

- NppStatus nppiFilter_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Single channel 32-bit float convolution filter.

- NppStatus nppiFilter_32f_C2R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Two channel 32-bit float convolution filter.

- NppStatus nppiFilter_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Three channel 32-bit float convolution filter.

- NppStatus nppiFilter_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Four channel 32-bit float convolution filter.

- NppStatus nppiFilter_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Four channel 32-bit float convolution filter, ignoring alpha channel.

- NppStatus nppiFilter_64f_C1R (const Npp64f ∗pSrc, Npp32s nSrcStep, Npp64f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp64f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Single channel 64-bit float convolution filter.

Filter32f

General purpose 2D convolution filter using floating-point weights.

Pixels under the mask are multiplied by the respective weights in the mask and the results are summed.

- NppStatus nppiFilter32f_8u_C1R (const Npp8u ∗pSrc, int nSrcStep, Npp8u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

Single channel 8-bit unsigned convolution filter.

- NppStatus nppiFilter32f_8u_C2R (const Npp8u ∗pSrc, int nSrcStep, Npp8u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Two channel 8-bit unsigned convolution filter.

- NppStatus nppiFilter32f_8u_C3R (const Npp8u ∗pSrc, int nSrcStep, Npp8u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Three channel 8-bit unsigned convolution filter.

- NppStatus nppiFilter32f_8u_C4R (const Npp8u ∗pSrc, int nSrcStep, Npp8u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Four channel 8-bit unsigned convolution filter.

- NppStatus nppiFilter32f_8u_AC4R (const Npp8u ∗pSrc, int nSrcStep, Npp8u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Four channel 8-bit unsigned convolution filter, ignorint alpha channel.

- NppStatus nppiFilter32f_8s_C1R (const Npp8s ∗pSrc, int nSrcStep, Npp8s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Single channel 8-bit signed convolution filter.

- NppStatus nppiFilter32f_8s_C2R (const Npp8s ∗pSrc, int nSrcStep, Npp8s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Two channel 8-bit signed convolution filter.

- NppStatus nppiFilter32f_8s_C3R (const Npp8s ∗pSrc, int nSrcStep, Npp8s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Three channel 8-bit signed convolution filter.

- NppStatus nppiFilter32f_8s_C4R (const Npp8s ∗pSrc, int nSrcStep, Npp8s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Four channel 8-bit signed convolution filter.

- NppStatus nppiFilter32f_8s_AC4R (const Npp8s ∗pSrc, int nSrcStep, Npp8s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Four channel 8-bit signed convolution filter, ignoring alpha channel.

- NppStatus nppiFilter32f_16u_C1R (const Npp16u ∗pSrc, int nSrcStep, Npp16u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Single channel 16-bit unsigned convolution filter.

- NppStatus nppiFilter32f_16u_C3R (const Npp16u ∗pSrc, int nSrcStep, Npp16u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Three channel 16-bit unsigned convolution filter.

- NppStatus nppiFilter32f_16u_C4R (const Npp16u ∗pSrc, int nSrcStep, Npp16u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Four channel 16-bit unsigned convolution filter.

- NppStatus nppiFilter32f_16u_AC4R (const Npp16u ∗pSrc, int nSrcStep, Npp16u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Four channel 16-bit unsigned convolution filter, ignoring alpha channel.

- NppStatus nppiFilter32f_16s_C1R (const Npp16s ∗pSrc, int nSrcStep, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Single channel 16-bit convolution filter.

- NppStatus nppiFilter32f_16s_C3R (const Npp16s ∗pSrc, int nSrcStep, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Three channel 16-bit convolution filter.

- NppStatus nppiFilter32f_16s_C4R (const Npp16s ∗pSrc, int nSrcStep, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Four channel 16-bit convolution filter.

- NppStatus nppiFilter32f_16s_AC4R (const Npp16s ∗pSrc, int nSrcStep, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Four channel 16-bit convolution filter, ignoring alpha channel.

- NppStatus nppiFilter32f_32s_C1R (const Npp32s ∗pSrc, int nSrcStep, Npp32s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Single channel 32-bit convolution filter.

- NppStatus nppiFilter32f_32s_C3R (const Npp32s ∗pSrc, int nSrcStep, Npp32s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Three channel 32-bit convolution filter.

- NppStatus nppiFilter32f_32s_C4R (const Npp32s ∗pSrc, int nSrcStep, Npp32s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Four channel 32-bit convolution filter.

- NppStatus nppiFilter32f_32s_AC4R (const Npp32s ∗pSrc, int nSrcStep, Npp32s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Four channel 32-bit convolution filter, ignoring alpha channel.

- NppStatus nppiFilter32f_8u16s_C1R (const Npp8u ∗pSrc, int nSrcStep, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Single channel 8-bit unsigned to 16-bit signed convolution filter.

- NppStatus nppiFilter32f_8u16s_C3R (const Npp8u ∗pSrc, int nSrcStep, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Three channel 8-bit unsigned to 16-bit signed convolution filter.

- NppStatus nppiFilter32f_8u16s_C4R (const Npp8u ∗pSrc, int nSrcStep, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Four channel 8-bit unsigned to 16-bit signed convolution filter.

- NppStatus nppiFilter32f_8u16s_AC4R (const Npp8u ∗pSrc, int nSrcStep, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Four channel 8-bit unsigned to 16-bit signed convolution filter, ignoring alpha channel.

- NppStatus nppiFilter32f_8s16s_C1R (const Npp8s ∗pSrc, int nSrcStep, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Single channel 8-bit to 16-bit signed convolution filter.

- NppStatus nppiFilter32f_8s16s_C3R (const Npp8s ∗pSrc, int nSrcStep, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Three channel 8-bit to 16-bit signed convolution filter.

- NppStatus nppiFilter32f_8s16s_C4R (const Npp8s ∗pSrc, int nSrcStep, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Four channel 8-bit to 16-bit signed convolution filter.

- NppStatus nppiFilter32f_8s16s_AC4R (const Npp8s ∗pSrc, int nSrcStep, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor)

  Four channel 8-bit to 16-bit signed convolution filter, ignoring alpha channel.

FilterBorder

General purpose 2D convolution filter with border control.

Pixels under the mask are multiplied by the respective weights in the mask and the results are summed. Before writing the result pixel the sum is scaled back via division by nDivisor. If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported.

- NppStatus nppiFilterBorder_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Single channel 8-bit unsigned convolution filter with border control.

- NppStatus nppiFilterBorder_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Three channel 8-bit unsigned convolution filter with border control.

- NppStatus nppiFilterBorder_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Four channel channel 8-bit unsigned convolution filter with border control.

- NppStatus nppiFilterBorder_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Four channel 8-bit unsigned convolution filter with border control, ignoring alpha channel.

- NppStatus nppiFilterBorder_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Single channel 16-bit unsigned convolution filter with border control.

- NppStatus nppiFilterBorder_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Three channel 16-bit unsigned convolution filter with border control.

- NppStatus nppiFilterBorder_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Four channel channel 16-bit unsigned convolution filter with border control.

- NppStatus nppiFilterBorder_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Four channel 16-bit unsigned convolution filter with border control, ignoring alpha channel.

- NppStatus nppiFilterBorder_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Single channel 16-bit convolution filter with border control.

- NppStatus nppiFilterBorder_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Three channel 16-bit convolution filter with border control.

- NppStatus nppiFilterBorder_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Four channel channel 16-bit convolution filter with border control.

- NppStatus nppiFilterBorder_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32s ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, Npp32s nDivisor, NppiBorderType eBorderType)

  Four channel 16-bit convolution filter with border control, ignoring alpha channel.

- NppStatus nppiFilterBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

Single channel 32-bit float convolution filter with border control.

- NppStatus nppiFilterBorder_32f_C2R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Two channel 32-bit float convolution filter with border control.

- NppStatus nppiFilterBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Three channel 32-bit float convolution filter with border control.

- NppStatus nppiFilterBorder_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 32-bit float convolution filter with border control.

- NppStatus nppiFilterBorder_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 32-bit float convolution filter with border control, ignoring alpha channel.

FilterBorder32f

General purpose 2D convolution filter using floating-point weights with border control.

Pixels under the mask are multiplied by the respective weights in the mask and the results are summed. Before writing the result pixel the sum is scaled back via division by nDivisor. If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported.

- NppStatus nppiFilterBorder32f_8u_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Single channel 8-bit unsigned convolution filter with border control.

- NppStatus nppiFilterBorder32f_8u_C2R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Two channel 8-bit unsigned convolution filter with border control.

- NppStatus nppiFilterBorder32f_8u_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Three channel 8-bit unsigned convolution filter with border control.

- NppStatus nppiFilterBorder32f_8u_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

Four channel 8-bit unsigned convolution filter with border control.

- NppStatus nppiFilterBorder32f_8u_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 8-bit unsigned convolution filter with border control, ignorint alpha channel.

- NppStatus nppiFilterBorder32f_8s_C1R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Single channel 8-bit signed convolution filter with border control.

- NppStatus nppiFilterBorder32f_8s_C2R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Two channel 8-bit signed convolution filter with border control.

- NppStatus nppiFilterBorder32f_8s_C3R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Three channel 8-bit signed convolution filter with border control.

- NppStatus nppiFilterBorder32f_8s_C4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 8-bit signed convolution filter with border control.

- NppStatus nppiFilterBorder32f_8s_AC4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 8-bit signed convolution filter with border control, ignoring alpha channel.

- NppStatus nppiFilterBorder32f_16u_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Single channel 16-bit unsigned convolution filter with border control.

- NppStatus nppiFilterBorder32f_16u_C3R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Three channel 16-bit unsigned convolution filter with border control.

- NppStatus nppiFilterBorder32f_16u_C4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 16-bit unsigned convolution filter with border control.

- NppStatus nppiFilterBorder32f_16u_AC4R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 16-bit unsigned convolution filter with border control, ignoring alpha channel.

- NppStatus nppiFilterBorder32f_16s_C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Single channel 16-bit convolution filter with border control.

- NppStatus nppiFilterBorder32f_16s_C3R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Three channel 16-bit convolution filter with border control.

- NppStatus nppiFilterBorder32f_16s_C4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 16-bit convolution filter with border control.

- NppStatus nppiFilterBorder32f_16s_AC4R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 16-bit convolution filter with border control, ignoring alpha channel.

- NppStatus nppiFilterBorder32f_32s_C1R (const Npp32s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Single channel 32-bit convolution filter with border control.

- NppStatus nppiFilterBorder32f_32s_C3R (const Npp32s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Three channel 32-bit convolution filter with border control.

- NppStatus nppiFilterBorder32f_32s_C4R (const Npp32s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 32-bit convolution filter with border control.

- NppStatus nppiFilterBorder32f_32s_AC4R (const Npp32s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 32-bit convolution filter with border control, ignoring alpha channel.

- NppStatus nppiFilterBorder32f_8u16s_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Single channel 8-bit unsigned to 16-bit signed convolution filter with border control.

- NppStatus nppiFilterBorder32f_8u16s_C3R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Three channel 8-bit unsigned to 16-bit signed convolution filter with border control.

- NppStatus nppiFilterBorder32f_8u16s_C4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 8-bit unsigned to 16-bit signed convolution filter with border control.

- NppStatus nppiFilterBorder32f_8u16s_AC4R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 8-bit unsigned to 16-bit signed convolution filter with border control, ignoring alpha channel.

- NppStatus nppiFilterBorder32f_8s16s_C1R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Single channel 8-bit to 16-bit signed convolution filter with border control.

- NppStatus nppiFilterBorder32f_8s16s_C3R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Three channel 8-bit to 16-bit signed convolution filter with border control.

- NppStatus nppiFilterBorder32f_8s16s_C4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 8-bit to 16-bit signed convolution filter with border control.

- NppStatus nppiFilterBorder32f_8s16s_AC4R (const Npp8s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, int nDstStep, NppiSize oSizeROI, const Npp32f ∗pKernel, NppiSize oKernelSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 8-bit to 16-bit signed convolution filter with border control, ignoring alpha channel.

7.8.1 Function Documentation

7.8.1.1 NppStatus nppiFilter32f_16s_AC4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, Npp16s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Four channel 16-bit convolution filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.2 NppStatus nppiFilter32f_16s_C1R (const Npp16s $*$ *pSrc*, int *nSrcStep*, Npp16s $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Single channel 16-bit convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.3 NppStatus nppiFilter32f_16s_C3R (const Npp16s $*$ *pSrc*, int *nSrcStep*, Npp16s $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Three channel 16-bit convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.4 NppStatus nppiFilter32f_16s_C4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, Npp16s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Four channel 16-bit convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.5 NppStatus nppiFilter32f_16u_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, Npp16u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Four channel 16-bit unsigned convolution filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.6 NppStatus nppiFilter32f_16u_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, Npp16u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Single channel 16-bit unsigned convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.7 NppStatus nppiFilter32f_16u_C3R (const Npp16u ∗ *pSrc*, int *nSrcStep*, Npp16u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Three channel 16-bit unsigned convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.8 NppStatus nppiFilter32f_16u_C4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, Npp16u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Four channel 16-bit unsigned convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.9 NppStatus nppiFilter32f_32s_AC4R (const Npp32s ∗ *pSrc*, int *nSrcStep*, Npp32s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Four channel 32-bit convolution filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.10 NppStatus nppiFilter32f_32s_C1R (const Npp32s $*$ *pSrc*, int *nSrcStep*, Npp32s $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Single channel 32-bit convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.11 NppStatus nppiFilter32f_32s_C3R (const Npp32s $*$ *pSrc*, int *nSrcStep*, Npp32s $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Three channel 32-bit convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.12 NppStatus nppiFilter32f_32s_C4R (const Npp32s $*$ *pSrc*, int *nSrcStep*, Npp32s $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Four channel 32-bit convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.13 NppStatus nppiFilter32f_8s16s_AC4R (const Npp8s $*$ *pSrc*, int *nSrcStep*, Npp16s $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Four channel 8-bit to 16-bit signed convolution filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.14 NppStatus nppiFilter32f_8s16s_C1R (const Npp8s $*$ *pSrc*, int *nSrcStep*, Npp16s $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Single channel 8-bit to 16-bit signed convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.15 NppStatus nppiFilter32f_8s16s_C3R (const Npp8s $*$ *pSrc*, int *nSrcStep*, Npp16s $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Three channel 8-bit to 16-bit signed convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.16 NppStatus nppiFilter32f_8s16s_C4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, Npp16s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Four channel 8-bit to 16-bit signed convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.17 NppStatus nppiFilter32f_8s_AC4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, Npp8s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Four channel 8-bit signed convolution filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.18 NppStatus nppiFilter32f_8s_C1R (const Npp8s ∗ *pSrc*, int *nSrcStep*, Npp8s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Single channel 8-bit signed convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.19 NppStatus nppiFilter32f_8s_C2R (const Npp8s ∗ *pSrc*, int *nSrcStep*, Npp8s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Two channel 8-bit signed convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.20 NppStatus nppiFilter32f_8s_C3R (const Npp8s * *pSrc*, int *nSrcStep*, Npp8s * *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f * *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Three channel 8-bit signed convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.21 NppStatus nppiFilter32f_8s_C4R (const Npp8s * *pSrc*, int *nSrcStep*, Npp8s * *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f * *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Four channel 8-bit signed convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.22 NppStatus nppiFilter32f_8u16s_AC4R (const Npp8u * *pSrc*, int *nSrcStep*, Npp16s * *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f * *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Four channel 8-bit unsigned to 16-bit signed convolution filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.23 NppStatus nppiFilter32f_8u16s_C1R (const Npp8u * *pSrc*, int *nSrcStep*, Npp16s * *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f * *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Single channel 8-bit unsigned to 16-bit signed convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.24 NppStatus nppiFilter32f_8u16s_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, Npp16s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Three channel 8-bit unsigned to 16-bit signed convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.25 NppStatus nppiFilter32f_8u16s_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, Npp16s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Four channel 8-bit unsigned to 16-bit signed convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.26 NppStatus nppiFilter32f_8u_AC4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, Npp8u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Four channel 8-bit unsigned convolution filter, ignorint alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.27 NppStatus nppiFilter32f_8u_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, Npp8u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Single channel 8-bit unsigned convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.28 NppStatus nppiFilter32f_8u_C2R (const Npp8u ∗ *pSrc*, int *nSrcStep*, Npp8u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Two channel 8-bit unsigned convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.29 NppStatus nppiFilter32f_8u_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, Npp8u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Three channel 8-bit unsigned convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.30 NppStatus nppiFilter32f_8u_C4R (const Npp8u * *pSrc*, int *nSrcStep*, Npp8u * *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f * *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Four channel 8-bit unsigned convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.31 NppStatus nppiFilter_16s_AC4R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s * *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*)

Four channel 16-bit convolution filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.32 NppStatus nppiFilter_16s_C1R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s * *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*)

Single channel 16-bit convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.33 NppStatus nppiFilter_16s_C3R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s * *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*)

Three channel 16-bit convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.34 NppStatus nppiFilter_16s_C4R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s * *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*)

Four channel channel 16-bit convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.35 NppStatus nppiFilter_16u_AC4R (const Npp16u * *pSrc*, Npp32s *nSrcStep*, Npp16u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s * *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*)

Four channel 16-bit unsigned convolution filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.36 NppStatus nppiFilter_16u_C1R (const Npp16u * *pSrc*, Npp32s *nSrcStep*, Npp16u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s * *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*)

Single channel 16-bit unsigned convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.37 NppStatus nppiFilter_16u_C3R (const Npp16u * *pSrc*, Npp32s *nSrcStep*, Npp16u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s * *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*)

Three channel 16-bit unsigned convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.38 NppStatus nppiFilter_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*)

Four channel channel 16-bit unsigned convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.39 NppStatus nppiFilter_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Four channel 32-bit float convolution filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.40 NppStatus nppiFilter_32f_C1R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32f * *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Single channel 32-bit float convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.41 NppStatus nppiFilter_32f_C2R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32f * *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Two channel 32-bit float convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.42 NppStatus nppiFilter_32f_C3R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32f * *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Three channel 32-bit float convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.43 NppStatus nppiFilter_32f_C4R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32f * *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Four channel 32-bit float convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.44 NppStatus nppiFilter_64f_C1R (const Npp64f ∗ *pSrc*, Npp32s *nSrcStep*, Npp64f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp64f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*)

Single channel 64-bit float convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.45 NppStatus nppiFilter_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*)

Four channel 8-bit unsigned convolution filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.46 NppStatus nppiFilter_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*)

Single channel 8-bit unsigned convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.47 NppStatus nppiFilter_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*)

Three channel 8-bit unsigned convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.48 NppStatus nppiFilter_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*)

Four channel channel 8-bit unsigned convolution filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.49 NppStatus nppiFilterBorder32f_16s_AC4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit convolution filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.50 NppStatus nppiFilterBorder32f_16s_C1R (const Npp16s * *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f * *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Single channel 16-bit convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.51 NppStatus nppiFilterBorder32f_16s_C3R (const Npp16s * *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f * *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Three channel 16-bit convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.52 NppStatus nppiFilterBorder32f_16s_C4R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.53 NppStatus nppiFilterBorder32f_16u_AC4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned convolution filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.54 NppStatus nppiFilterBorder32f_16u_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Single channel 16-bit unsigned convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.55 NppStatus nppiFilterBorder32f_16u_C3R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Three channel 16-bit unsigned convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.56 NppStatus nppiFilterBorder32f_16u_C4R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.57 NppStatus nppiFilterBorder32f_32s_AC4R (const Npp32s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 32-bit convolution filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.58 NppStatus nppiFilterBorder32f_32s_C1R (const Npp32s $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32s $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Single channel 32-bit convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.59 NppStatus nppiFilterBorder32f_32s_C3R (const Npp32s $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32s $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Three channel 32-bit convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.60 NppStatus nppiFilterBorder32f_32s_C4R (const Npp32s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 32-bit convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.61 NppStatus nppiFilterBorder32f_8s16s_AC4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 8-bit to 16-bit signed convolution filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.62 NppStatus nppiFilterBorder32f_8s16s_C1R (const Npp8s $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Single channel 8-bit to 16-bit signed convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.63 NppStatus nppiFilterBorder32f_8s16s_C3R (const Npp8s $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Three channel 8-bit to 16-bit signed convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.64 NppStatus nppiFilterBorder32f_8s16s_C4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 8-bit to 16-bit signed convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.65 NppStatus nppiFilterBorder32f_8s_AC4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 8-bit signed convolution filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.66 NppStatus nppiFilterBorder32f_8s_C1R (const Npp8s $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8s $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Single channel 8-bit signed convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.67 NppStatus nppiFilterBorder32f_8s_C2R (const Npp8s $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8s $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Two channel 8-bit signed convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.68 NppStatus nppiFilterBorder32f_8s_C3R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Three channel 8-bit signed convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.69 NppStatus nppiFilterBorder32f_8s_C4R (const Npp8s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 8-bit signed convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.70 NppStatus nppiFilterBorder32f_8u16s_AC4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned to 16-bit signed convolution filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.71 NppStatus nppiFilterBorder32f_8u16s_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned to 16-bit signed convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.72 NppStatus nppiFilterBorder32f_8u16s_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned to 16-bit signed convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.73 NppStatus nppiFilterBorder32f_8u16s_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned to 16-bit signed convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.74 NppStatus nppiFilterBorder32f_8u_AC4R (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned convolution filter with border control, ignorint alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.75 NppStatus nppiFilterBorder32f_8u_C1R (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u $*$ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.76 NppStatus nppiFilterBorder32f_8u_C2R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Two channel 8-bit unsigned convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.77 NppStatus nppiFilterBorder32f_8u_C3R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.78 NppStatus nppiFilterBorder32f_8u_C4R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.79 NppStatus nppiFilterBorder_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Four channel 16-bit convolution filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.80 NppStatus nppiFilterBorder_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Single channel 16-bit convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.81 NppStatus nppiFilterBorder_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Three channel 16-bit convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.82 NppStatus nppiFilterBorder_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Four channel channel 16-bit convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.83 NppStatus nppiFilterBorder_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned convolution filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.84 NppStatus nppiFilterBorder_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Single channel 16-bit unsigned convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.85 NppStatus nppiFilterBorder_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Three channel 16-bit unsigned convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.86 NppStatus nppiFilterBorder_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Four channel channel 16-bit unsigned convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.87 NppStatus nppiFilterBorder_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 32-bit float convolution filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.88 NppStatus nppiFilterBorder_32f_C1R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Single channel 32-bit float convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.89 NppStatus nppiFilterBorder_32f_C2R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32f $*$ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Two channel 32-bit float convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.90 NppStatus nppiFilterBorder_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Three channel 32-bit float convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.91 NppStatus nppiFilterBorder_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32f ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 32-bit float convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.92 NppStatus nppiFilterBorder_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned convolution filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.93 NppStatus nppiFilterBorder_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s ∗ *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.94 NppStatus nppiFilterBorder_8u_C3R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s * *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.8.1.95 NppStatus nppiFilterBorder_8u_C4R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const Npp32s * *pKernel*, NppiSize *oKernelSize*, NppiPoint *oAnchor*, Npp32s *nDivisor*, NppiBorderType *eBorderType*)

Four channel channel 8-bit unsigned convolution filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

pKernel Pointer to the start address of the kernel coefficient array. Coeffcients are expected to be stored in reverse order.

oKernelSize Width and Height of the rectangular kernel.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

nDivisor The factor by which the convolved summation from the Filter operation should be divided. If equal to the sum of coefficients, this will keep the maximum result value within full scale.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9 2D Fixed Linear Filters

FilterBox

Computes the average pixel values of the pixels under a rectangular mask.

- NppStatus nppiFilterBox_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Single channel 8-bit unsigned box filter.

- NppStatus nppiFilterBox_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Three channel 8-bit unsigned box filter.

- NppStatus nppiFilterBox_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 8-bit unsigned box filter.

- NppStatus nppiFilterBox_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 8-bit unsigned box filter, ignorting alpha channel.

- NppStatus nppiFilterBox_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Single channel 16-bit unsigned box filter.

- NppStatus nppiFilterBox_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Three channel 16-bit unsigned box filter.

- NppStatus nppiFilterBox_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 16-bit unsigned box filter.

- NppStatus nppiFilterBox_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 16-bit unsigned box filter, ignorting alpha channel.

- NppStatus nppiFilterBox_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Single channel 16-bit box filter.

- NppStatus nppiFilterBox_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Three channel 16-bit box filter.

- NppStatus nppiFilterBox_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 16-bit box filter.

- NppStatus nppiFilterBox_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 16-bit box filter, ignorting alpha channel.

- NppStatus nppiFilterBox_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Single channel 32-bit floating-point box filter.

- NppStatus nppiFilterBox_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Three channel 32-bit floating-point box filter.

- NppStatus nppiFilterBox_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 32-bit floating-point box filter.

- NppStatus nppiFilterBox_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 32-bit floating-point box filter, ignorting alpha channel.

- NppStatus nppiFilterBox_64f_C1R (const Npp64f ∗pSrc, Npp32s nSrcStep, Npp64f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Single channel 64-bit floating-point box filter.

FilterBoxBorder

Computes the average pixel values of the pixels under a rectangular mask with border control.

If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported. ∗

- NppStatus nppiFilterBoxBorder_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Single channel 8-bit unsigned box filter with border control.

- NppStatus nppiFilterBoxBorder_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Three channel 8-bit unsigned box filter with border control.

- NppStatus nppiFilterBoxBorder_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 8-bit unsigned box filter with border control.

- NppStatus nppiFilterBoxBorder_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

Four channel 8-bit unsigned box filter with border control, ignoring alpha channel.

- NppStatus nppiFilterBoxBorder_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Single channel 16-bit unsigned box filter with border control.

- NppStatus nppiFilterBoxBorder_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Three channel 16-bit unsigned box filter with border control.

- NppStatus nppiFilterBoxBorder_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 16-bit unsigned box filter with border control.

- NppStatus nppiFilterBoxBorder_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 16-bit unsigned box filter with border control, ignoring alpha channel.

- NppStatus nppiFilterBoxBorder_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Single channel 16-bit box filter with border control.

- NppStatus nppiFilterBoxBorder_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Three channel 16-bit box filter with border control.

- NppStatus nppiFilterBoxBorder_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 16-bit box filter with border control.

- NppStatus nppiFilterBoxBorder_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 16-bit box filter with border control, ignoring alpha channel.

- NppStatus nppiFilterBoxBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Single channel 32-bit floating-point box filter with border control.

- NppStatus nppiFilterBoxBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Three channel 32-bit floating-point box filter with border control.

- NppStatus nppiFilterBoxBorder_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 32-bit floating-point box filter with border control.

- NppStatus nppiFilterBoxBorder_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 32-bit floating-point box filter with border control, ignoring alpha channel.

7.9.1 Function Documentation

7.9.1.1 NppStatus nppiFilterBox_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 16-bit box filter, ignorting alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.2 NppStatus nppiFilterBox_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Single channel 16-bit box filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.3 NppStatus nppiFilterBox_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Three channel 16-bit box filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.4 NppStatus nppiFilterBox_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 16-bit box filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.5 NppStatus nppiFilterBox_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 16-bit unsigned box filter, ignorting alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.6 NppStatus nppiFilterBox_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Single channel 16-bit unsigned box filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.7 NppStatus nppiFilterBox_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Three channel 16-bit unsigned box filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.8 NppStatus nppiFilterBox_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 16-bit unsigned box filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.9 NppStatus nppiFilterBox_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 32-bit floating-point box filter, ignorting alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.10 NppStatus nppiFilterBox_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Single channel 32-bit floating-point box filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.11 NppStatus nppiFilterBox_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Three channel 32-bit floating-point box filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.12 NppStatus nppiFilterBox_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 32-bit floating-point box filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.13 NppStatus nppiFilterBox_64f_C1R (const Npp64f ∗ *pSrc*, Npp32s *nSrcStep*, Npp64f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Single channel 64-bit floating-point box filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.14 NppStatus nppiFilterBox_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 8-bit unsigned box filter, ignorting alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.15 NppStatus nppiFilterBox_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Single channel 8-bit unsigned box filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.16 NppStatus nppiFilterBox_8u_C3R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Three channel 8-bit unsigned box filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.17 NppStatus nppiFilterBox_8u_C4R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 8-bit unsigned box filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.18 NppStatus nppiFilterBoxBorder_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit box filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.19 NppStatus nppiFilterBoxBorder_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Single channel 16-bit box filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.20 NppStatus nppiFilterBoxBorder_16s_C3R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Three channel 16-bit box filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.21 NppStatus nppiFilterBoxBorder_16s_C4R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit box filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.22 NppStatus nppiFilterBoxBorder_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned box filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.23 NppStatus nppiFilterBoxBorder_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Single channel 16-bit unsigned box filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.24 NppStatus nppiFilterBoxBorder_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Three channel 16-bit unsigned box filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.25 NppStatus nppiFilterBoxBorder_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned box filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.26 NppStatus nppiFilterBoxBorder_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point box filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.27 NppStatus nppiFilterBoxBorder_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point box filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.28 NppStatus nppiFilterBoxBorder_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Three channel 32-bit floating-point box filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.29 NppStatus nppiFilterBoxBorder_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point box filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.30 NppStatus nppiFilterBoxBorder_8u_AC4R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned box filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.31 NppStatus nppiFilterBoxBorder_8u_C1R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned box filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.32 NppStatus nppiFilterBoxBorder_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned box filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.9.1.33 NppStatus nppiFilterBoxBorder_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned box filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Avg operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10 Rank Filters

ImageMax Filter

Result pixel value is the maximum of pixel values under the rectangular mask region.

- NppStatus nppiFilterMax_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Single channel 8-bit unsigned maximum filter.

- NppStatus nppiFilterMax_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Three channel 8-bit unsigned maximum filter.

- NppStatus nppiFilterMax_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 8-bit unsigned maximum filter.

- NppStatus nppiFilterMax_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 8-bit unsigned maximum filter, ignoring alpha channel.

- NppStatus nppiFilterMax_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Single channel 16-bit unsigned maximum filter.

- NppStatus nppiFilterMax_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Three channel 16-bit unsigned maximum filter.

- NppStatus nppiFilterMax_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 16-bit unsigned maximum filter.

- NppStatus nppiFilterMax_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 16-bit unsigned maximum filter, ignoring alpha channel.

- NppStatus nppiFilterMax_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Single channel 16-bit signed maximum filter.

- NppStatus nppiFilterMax_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Three channel 16-bit signed maximum filter.

- NppStatus nppiFilterMax_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 16-bit signed maximum filter.

- NppStatus nppiFilterMax_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 16-bit signed maximum filter, ignoring alpha channel.

- NppStatus nppiFilterMax_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Single channel 32-bit floating-point maximum filter.

- NppStatus nppiFilterMax_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Three channel 32-bit floating-point maximum filter.

- NppStatus nppiFilterMax_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 32-bit floating-point maximum filter.

- NppStatus nppiFilterMax_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 32-bit floating-point maximum filter, ignoring alpha channel.

ImageMaxBorder Filter

Result pixel value is the maximum of pixel values under the rectangular mask region.

If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported.

- NppStatus nppiFilterMaxBorder_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Single channel 8-bit unsigned maximum filter with border control.

- NppStatus nppiFilterMaxBorder_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Three channel 8-bit unsigned maximum filter with border control.

- NppStatus nppiFilterMaxBorder_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 8-bit unsigned maximum filter with border control.

- NppStatus nppiFilterMaxBorder_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 8-bit unsigned maximum filter with border control, ignoring alpha channel.

- NppStatus nppiFilterMaxBorder_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Single channel 16-bit unsigned maximum filter with border control.

- NppStatus nppiFilterMaxBorder_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Three channel 16-bit unsigned maximum filter with border control.

- NppStatus nppiFilterMaxBorder_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 16-bit unsigned maximum filter with border control.

- NppStatus nppiFilterMaxBorder_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 16-bit unsigned maximum filter with border control, ignoring alpha channel.

- NppStatus nppiFilterMaxBorder_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Single channel 16-bit signed maximum filter with border control.

- NppStatus nppiFilterMaxBorder_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Three channel 16-bit signed maximum filter with border control.

- NppStatus nppiFilterMaxBorder_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 16-bit signed maximum filter with border control.

- NppStatus nppiFilterMaxBorder_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 16-bit signed maximum filter with border control, ignoring alpha channel.

- NppStatus nppiFilterMaxBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Single channel 32-bit floating-point maximum filter with border control.

- NppStatus nppiFilterMaxBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Three channel 32-bit floating-point maximum filter with border control.

- NppStatus nppiFilterMaxBorder_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 32-bit floating-point maximum filter with border control.

- NppStatus nppiFilterMaxBorder_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 32-bit floating-point maximum filter with border control, ignoring alpha channel.

ImageMin Filter

Result pixel value is the minimum of pixel values under the rectangular mask region.

- NppStatus nppiFilterMin_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Single channel 8-bit unsigned minimum filter.

- NppStatus nppiFilterMin_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Three channel 8-bit unsigned minimum filter.

- NppStatus nppiFilterMin_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 8-bit unsigned minimum filter.

- NppStatus nppiFilterMin_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 8-bit unsigned minimum filter, ignoring alpha channel.

- NppStatus nppiFilterMin_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Single channel 16-bit unsigned minimum filter.

- NppStatus nppiFilterMin_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Three channel 16-bit unsigned minimum filter.

- NppStatus nppiFilterMin_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 16-bit unsigned minimum filter.

- NppStatus nppiFilterMin_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 16-bit unsigned minimum filter, ignoring alpha channel.

- NppStatus nppiFilterMin_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Single channel 16-bit signed minimum filter.

- NppStatus nppiFilterMin_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Three channel 16-bit signed minimum filter.

- NppStatus nppiFilterMin_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 16-bit signed minimum filter.

- NppStatus nppiFilterMin_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 16-bit signed minimum filter, ignoring alpha channel.

- NppStatus nppiFilterMin_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Single channel 32-bit floating-point minimum filter.

- NppStatus nppiFilterMin_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Three channel 32-bit floating-point minimum filter.

- NppStatus nppiFilterMin_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 32-bit floating-point minimum filter.

- NppStatus nppiFilterMin_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor)

  Four channel 32-bit floating-point minimum filter, ignoring alpha channel.

ImageMinBorder Filter

Result pixel value is the minimum of pixel values under the rectangular mask region.

If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported.

- NppStatus nppiFilterMinBorder_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Single channel 8-bit unsigned minimum filter with border control.

- NppStatus nppiFilterMinBorder_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Three channel 8-bit unsigned minimum filter with border control.

- NppStatus nppiFilterMinBorder_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

Four channel 8-bit unsigned minimum filter with border control.

- NppStatus nppiFilterMinBorder_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 8-bit unsigned minimum filter with border control, ignoring alpha channel.

- NppStatus nppiFilterMinBorder_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Single channel 16-bit unsigned minimum filter with border control.

- NppStatus nppiFilterMinBorder_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Three channel 16-bit unsigned minimum filter with border control.

- NppStatus nppiFilterMinBorder_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 16-bit unsigned minimum filter with border control.

- NppStatus nppiFilterMinBorder_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 16-bit unsigned minimum filter with border control, ignoring alpha channel.

- NppStatus nppiFilterMinBorder_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Single channel 16-bit signed minimum filter with border control.

- NppStatus nppiFilterMinBorder_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Three channel 16-bit signed minimum filter with border control.

- NppStatus nppiFilterMinBorder_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 16-bit signed minimum filter with border control.

- NppStatus nppiFilterMinBorder_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 16-bit signed minimum filter with border control, ignoring alpha channel.

- NppStatus nppiFilterMinBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Single channel 32-bit floating-point minimum filter with border control.

- NppStatus nppiFilterMinBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Three channel 32-bit floating-point minimum filter with border control.

- NppStatus nppiFilterMinBorder_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 32-bit floating-point minimum filter with border control.

- NppStatus nppiFilterMinBorder_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, NppiBorderType eBorderType)

  Four channel 32-bit floating-point minimum filter with border control, ignoring alpha channel.

ImageMedian Filter

Result pixel value is the median of pixel values under the rectangular mask region.

- NppStatus nppiFilterMedian_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, Npp8u ∗pBuffer)

  Single channel 8-bit unsigned median filter.

- NppStatus nppiFilterMedian_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, Npp8u ∗pBuffer)

  Three channel 8-bit unsigned median filter.

- NppStatus nppiFilterMedian_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, Npp8u ∗pBuffer)

  Four channel 8-bit unsigned median filter.

- NppStatus nppiFilterMedian_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, Npp8u ∗pBuffer)

  Four channel 8-bit unsigned median filter, ignoring alpha channel.

- NppStatus nppiFilterMedian_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, Npp8u ∗pBuffer)

  Single channel 16-bit unsigned median filter.

- NppStatus nppiFilterMedian_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, Npp8u ∗pBuffer)

  Three channel 16-bit unsigned median filter.

- NppStatus nppiFilterMedian_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, Npp8u ∗pBuffer)

Four channel 16-bit unsigned median filter.

- NppStatus nppiFilterMedian_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, Npp8u ∗pBuffer)

  Four channel 16-bit unsigned median filter, ignoring alpha channel.

- NppStatus nppiFilterMedian_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, Npp8u ∗pBuffer)

  Single channel 16-bit signed median filter.

- NppStatus nppiFilterMedian_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, Npp8u ∗pBuffer)

  Three channel 16-bit signed median filter.

- NppStatus nppiFilterMedian_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, Npp8u ∗pBuffer)

  Four channel 16-bit signed median filter.

- NppStatus nppiFilterMedian_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, Npp8u ∗pBuffer)

  Four channel 16-bit signed median filter, ignoring alpha channel.

- NppStatus nppiFilterMedian_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, Npp8u ∗pBuffer)

  Single channel 32-bit floating-point median filter.

- NppStatus nppiFilterMedian_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, Npp8u ∗pBuffer)

  Three channel 32-bit floating-point median filter.

- NppStatus nppiFilterMedian_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, Npp8u ∗pBuffer)

  Four channel 32-bit floating-point median filter.

- NppStatus nppiFilterMedian_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiSize oMaskSize, NppiPoint oAnchor, Npp8u ∗pBuffer)

  Four channel 32-bit floating-point median filter, ignoring alpha channel.

- NppStatus nppiFilterMedianGetBufferSize_8u_C1R (NppiSize oSizeROI, NppiSize oMaskSize, Npp32u ∗nBufferSize)

  Single channel 8-bit unsigned median filter scratch memory size.

- NppStatus nppiFilterMedianGetBufferSize_8u_C3R (NppiSize oSizeROI, NppiSize oMaskSize, Npp32u ∗nBufferSize)

  Three channel 8-bit unsigned median filter scratch memory size.

- NppStatus nppiFilterMedianGetBufferSize_8u_C4R (NppiSize oSizeROI, NppiSize oMaskSize, Npp32u ∗nBufferSize)

  Four channel 8-bit unsigned median filter scratch memory size.

- NppStatus nppiFilterMedianGetBufferSize_8u_AC4R (NppiSize oSizeROI, NppiSize oMaskSize, Npp32u ∗nBufferSize)

  Four channel 8-bit unsigned median filter, ignoring alpha channel.

- NppStatus nppiFilterMedianGetBufferSize_16u_C1R (NppiSize oSizeROI, NppiSize oMaskSize, Npp32u ∗nBufferSize)

  Single channel 16-bit unsigned median filter scratch memory size.

- NppStatus nppiFilterMedianGetBufferSize_16u_C3R (NppiSize oSizeROI, NppiSize oMaskSize, Npp32u ∗nBufferSize)

  Three channel 16-bit unsigned median filter scratch memory size.

- NppStatus nppiFilterMedianGetBufferSize_16u_C4R (NppiSize oSizeROI, NppiSize oMaskSize, Npp32u ∗nBufferSize)

  Four channel 16-bit unsigned median filter scratch memory size.

- NppStatus nppiFilterMedianGetBufferSize_16u_AC4R (NppiSize oSizeROI, NppiSize oMaskSize, Npp32u ∗nBufferSize)

  Four channel 16-bit unsigned median filter, ignoring alpha channel.

- NppStatus nppiFilterMedianGetBufferSize_16s_C1R (NppiSize oSizeROI, NppiSize oMaskSize, Npp32u ∗nBufferSize)

  Single channel 16-bit signed median filter scratch memory size.

- NppStatus nppiFilterMedianGetBufferSize_16s_C3R (NppiSize oSizeROI, NppiSize oMaskSize, Npp32u ∗nBufferSize)

  Three channel 16-bit signed median filter scratch memory size.

- NppStatus nppiFilterMedianGetBufferSize_16s_C4R (NppiSize oSizeROI, NppiSize oMaskSize, Npp32u ∗nBufferSize)

  Four channel 16-bit signed median filter scratch memory size.

- NppStatus nppiFilterMedianGetBufferSize_16s_AC4R (NppiSize oSizeROI, NppiSize oMaskSize, Npp32u ∗nBufferSize)

  Four channel 16-bit signed median filter, ignoring alpha channel.

- NppStatus nppiFilterMedianGetBufferSize_32f_C1R (NppiSize oSizeROI, NppiSize oMaskSize, Npp32u ∗nBufferSize)

  Single channel 32-bit floating-point median filter scratch memory size.

- NppStatus nppiFilterMedianGetBufferSize_32f_C3R (NppiSize oSizeROI, NppiSize oMaskSize, Npp32u ∗nBufferSize)

  Three channel 32-bit floating-point median filter scratch memory size.

- NppStatus nppiFilterMedianGetBufferSize_32f_C4R (NppiSize oSizeROI, NppiSize oMaskSize, Npp32u ∗nBufferSize)

  Four channel 32-bit floating-point median filter scratch memory size.

- NppStatus nppiFilterMedianGetBufferSize_32f_AC4R (NppiSize oSizeROI, NppiSize oMaskSize, Npp32u ∗nBufferSize)

  Four channel 32-bit floating-point median filter, ignoring alpha channel.

7.10.1 Function Documentation

7.10.1.1 NppStatus nppiFilterMax_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 16-bit signed maximum filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.2 NppStatus nppiFilterMax_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Single channel 16-bit signed maximum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.3 NppStatus nppiFilterMax_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Three channel 16-bit signed maximum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.4 NppStatus nppiFilterMax_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 16-bit signed maximum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.5 NppStatus nppiFilterMax_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 16-bit unsigned maximum filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.6 NppStatus nppiFilterMax_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Single channel 16-bit unsigned maximum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.7 NppStatus nppiFilterMax_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Three channel 16-bit unsigned maximum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.8 NppStatus nppiFilterMax_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 16-bit unsigned maximum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.9 NppStatus nppiFilterMax_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 32-bit floating-point maximum filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.10 NppStatus nppiFilterMax_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Single channel 32-bit floating-point maximum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.11 NppStatus nppiFilterMax_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Three channel 32-bit floating-point maximum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.12 NppStatus nppiFilterMax_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 32-bit floating-point maximum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.13 NppStatus nppiFilterMax_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 8-bit unsigned maximum filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.14 NppStatus nppiFilterMax_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Single channel 8-bit unsigned maximum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.15 NppStatus nppiFilterMax_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Three channel 8-bit unsigned maximum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.16 NppStatus nppiFilterMax_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 8-bit unsigned maximum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.17 NppStatus nppiFilterMaxBorder_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit signed maximum filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.18 NppStatus nppiFilterMaxBorder_16s_C1R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Single channel 16-bit signed maximum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.19 NppStatus nppiFilterMaxBorder_16s_C3R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Three channel 16-bit signed maximum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.20 NppStatus nppiFilterMaxBorder_16s_C4R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit signed maximum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.21 NppStatus nppiFilterMaxBorder_16u_AC4R (const Npp16u $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned maximum filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.22 NppStatus nppiFilterMaxBorder_16u_C1R (const Npp16u $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Single channel 16-bit unsigned maximum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.23 NppStatus nppiFilterMaxBorder_16u_C3R (const Npp16u $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Three channel 16-bit unsigned maximum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.24 NppStatus nppiFilterMaxBorder_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned maximum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.25 NppStatus nppiFilterMaxBorder_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point maximum filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.26 NppStatus nppiFilterMaxBorder_32f_C1R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point maximum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.27 NppStatus nppiFilterMaxBorder_32f_C3R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Three channel 32-bit floating-point maximum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.28 NppStatus nppiFilterMaxBorder_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point maximum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.29 NppStatus nppiFilterMaxBorder_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned maximum filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.30 NppStatus nppiFilterMaxBorder_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned maximum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.31 NppStatus nppiFilterMaxBorder_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned maximum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.32 NppStatus nppiFilterMaxBorder_8u_C4R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned maximum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.33 NppStatus nppiFilterMedian_16s_AC4R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, Npp8u * *pBuffer*)

Four channel 16-bit signed median filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

pBuffer Pointer to the user-allocated scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.34 NppStatus nppiFilterMedian_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, Npp8u ∗ *pBuffer*)

Single channel 16-bit signed median filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

pBuffer Pointer to the user-allocated scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.35 NppStatus nppiFilterMedian_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, Npp8u ∗ *pBuffer*)

Three channel 16-bit signed median filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

pBuffer Pointer to the user-allocated scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.36 NppStatus nppiFilterMedian_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, Npp8u ∗ *pBuffer*)

Four channel 16-bit signed median filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

pBuffer Pointer to the user-allocated scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.37 NppStatus nppiFilterMedian_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, Npp8u ∗ *pBuffer*)

Four channel 16-bit unsigned median filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

pBuffer Pointer to the user-allocated scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.38 NppStatus nppiFilterMedian_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, Npp8u ∗ *pBuffer*)

Single channel 16-bit unsigned median filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

pBuffer Pointer to the user-allocated scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.39 NppStatus nppiFilterMedian_16u_C3R (const Npp16u * *pSrc*, Npp32s *nSrcStep*, Npp16u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, Npp8u * *pBuffer*)

Three channel 16-bit unsigned median filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

pBuffer Pointer to the user-allocated scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.40 NppStatus nppiFilterMedian_16u_C4R (const Npp16u * *pSrc*, Npp32s *nSrcStep*, Npp16u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, Npp8u * *pBuffer*)

Four channel 16-bit unsigned median filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

pBuffer Pointer to the user-allocated scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.41 NppStatus nppiFilterMedian_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, Npp8u ∗ *pBuffer*)

Four channel 32-bit floating-point median filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

pBuffer Pointer to the user-allocated scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.42 NppStatus nppiFilterMedian_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, Npp8u ∗ *pBuffer*)

Single channel 32-bit floating-point median filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

pBuffer Pointer to the user-allocated scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.43 NppStatus nppiFilterMedian_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, Npp8u ∗ *pBuffer*)

Three channel 32-bit floating-point median filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

pBuffer Pointer to the user-allocated scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.44 NppStatus nppiFilterMedian_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, Npp8u ∗ *pBuffer*)

Four channel 32-bit floating-point median filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

pBuffer Pointer to the user-allocated scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.45 NppStatus nppiFilterMedian_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, Npp8u ∗ *pBuffer*)

Four channel 8-bit unsigned median filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

pBuffer Pointer to the user-allocated scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.46 NppStatus nppiFilterMedian_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, Npp8u ∗ *pBuffer*)

Single channel 8-bit unsigned median filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

pBuffer Pointer to the user-allocated scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.47 NppStatus nppiFilterMedian_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, Npp8u ∗ *pBuffer*)

Three channel 8-bit unsigned median filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

pBuffer Pointer to the user-allocated scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.48 NppStatus nppiFilterMedian_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, Npp8u ∗ *pBuffer*)

Four channel 8-bit unsigned median filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

pBuffer Pointer to the user-allocated scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.49 NppStatus nppiFilterMedianGetBufferSize_16s_AC4R (NppiSize *oSizeROI*, NppiSize *oMaskSize*, Npp32u ∗ *nBufferSize*)

Four channel 16-bit signed median filter, ignoring alpha channel.

Parameters:

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

nBufferSize Pointer to the size of the scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes

7.10.1.50 NppStatus nppiFilterMedianGetBufferSize_16s_C1R (NppiSize *oSizeROI*, NppiSize *oMaskSize*, Npp32u ∗ *nBufferSize*)

Single channel 16-bit signed median filter scratch memory size.

Parameters:

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

nBufferSize Pointer to the size of the scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes

7.10.1.51 NppStatus nppiFilterMedianGetBufferSize_16s_C3R (NppiSize *oSizeROI*, NppiSize *oMaskSize*, Npp32u ∗ *nBufferSize*)

Three channel 16-bit signed median filter scratch memory size.

Parameters:

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

nBufferSize Pointer to the size of the scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes

7.10.1.52 NppStatus nppiFilterMedianGetBufferSize_16s_C4R (NppiSize *oSizeROI*, NppiSize *oMaskSize*, Npp32u ∗ *nBufferSize*)

Four channel 16-bit signed median filter scratch memory size.

Parameters:

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

nBufferSize Pointer to the size of the scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes

7.10.1.53 NppStatus nppiFilterMedianGetBufferSize_16u_AC4R (NppiSize *oSizeROI*, NppiSize *oMaskSize*, Npp32u ∗ *nBufferSize*)

Four channel 16-bit unsigned median filter, ignoring alpha channel.

Parameters:

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

nBufferSize Pointer to the size of the scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes

7.10.1.54 NppStatus nppiFilterMedianGetBufferSize_16u_C1R (NppiSize *oSizeROI*, NppiSize *oMaskSize*, Npp32u ∗ *nBufferSize*)

Single channel 16-bit unsigned median filter scratch memory size.

Parameters:

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

nBufferSize Pointer to the size of the scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes

7.10.1.55 NppStatus nppiFilterMedianGetBufferSize_16u_C3R (NppiSize *oSizeROI*, NppiSize *oMaskSize*, Npp32u * *nBufferSize*)

Three channel 16-bit unsigned median filter scratch memory size.

Parameters:

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

nBufferSize Pointer to the size of the scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes

7.10.1.56 NppStatus nppiFilterMedianGetBufferSize_16u_C4R (NppiSize *oSizeROI*, NppiSize *oMaskSize*, Npp32u * *nBufferSize*)

Four channel 16-bit unsigned median filter scratch memory size.

Parameters:

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

nBufferSize Pointer to the size of the scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes

7.10.1.57 NppStatus nppiFilterMedianGetBufferSize_32f_AC4R (NppiSize *oSizeROI*, NppiSize *oMaskSize*, Npp32u * *nBufferSize*)

Four channel 32-bit floating-point median filter, ignoring alpha channel.

Parameters:

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

nBufferSize Pointer to the size of the scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes

7.10.1.58 NppStatus nppiFilterMedianGetBufferSize_32f_C1R (NppiSize *oSizeROI*, NppiSize *oMaskSize*, Npp32u ∗ *nBufferSize*)

Single channel 32-bit floating-point median filter scratch memory size.

Parameters:

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

nBufferSize Pointer to the size of the scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes

7.10.1.59 NppStatus nppiFilterMedianGetBufferSize_32f_C3R (NppiSize *oSizeROI*, NppiSize *oMaskSize*, Npp32u ∗ *nBufferSize*)

Three channel 32-bit floating-point median filter scratch memory size.

Parameters:

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

nBufferSize Pointer to the size of the scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes

7.10.1.60 NppStatus nppiFilterMedianGetBufferSize_32f_C4R (NppiSize *oSizeROI*, NppiSize *oMaskSize*, Npp32u ∗ *nBufferSize*)

Four channel 32-bit floating-point median filter scratch memory size.

Parameters:

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

nBufferSize Pointer to the size of the scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes

7.10.1.61 NppStatus nppiFilterMedianGetBufferSize_8u_AC4R (NppiSize *oSizeROI*, NppiSize *oMaskSize*, Npp32u ∗ *nBufferSize*)

Four channel 8-bit unsigned median filter, ignoring alpha channel.

Parameters:

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

nBufferSize Pointer to the size of the scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes

7.10.1.62 NppStatus nppiFilterMedianGetBufferSize_8u_C1R (NppiSize *oSizeROI*, NppiSize *oMaskSize*, Npp32u $*$ *nBufferSize*)

Single channel 8-bit unsigned median filter scratch memory size.

Parameters:

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

nBufferSize Pointer to the size of the scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes

7.10.1.63 NppStatus nppiFilterMedianGetBufferSize_8u_C3R (NppiSize *oSizeROI*, NppiSize *oMaskSize*, Npp32u $*$ *nBufferSize*)

Three channel 8-bit unsigned median filter scratch memory size.

Parameters:

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

nBufferSize Pointer to the size of the scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes

7.10.1.64 NppStatus nppiFilterMedianGetBufferSize_8u_C4R (NppiSize *oSizeROI*, NppiSize *oMaskSize*, Npp32u $*$ *nBufferSize*)

Four channel 8-bit unsigned median filter scratch memory size.

Parameters:

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Median operation.

nBufferSize Pointer to the size of the scratch buffer required for the Median operation.

Returns:

Image Data Related Error Codes

7.10.1.65 NppStatus nppiFilterMin_16s_AC4R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 16-bit signed minimum filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.66 NppStatus nppiFilterMin_16s_C1R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Single channel 16-bit signed minimum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.67 NppStatus nppiFilterMin_16s_C3R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Three channel 16-bit signed minimum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.68 NppStatus nppiFilterMin_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 16-bit signed minimum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.69 NppStatus nppiFilterMin_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 16-bit unsigned minimum filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.70 NppStatus nppiFilterMin_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Single channel 16-bit unsigned minimum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.71 NppStatus nppiFilterMin_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Three channel 16-bit unsigned minimum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.72 NppStatus nppiFilterMin_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 16-bit unsigned minimum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.73 NppStatus nppiFilterMin_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 32-bit floating-point minimum filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.74 NppStatus nppiFilterMin_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Single channel 32-bit floating-point minimum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.75 NppStatus nppiFilterMin_32f_C3R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Three channel 32-bit floating-point minimum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.76 NppStatus nppiFilterMin_32f_C4R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 32-bit floating-point minimum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.77 NppStatus nppiFilterMin_8u_AC4R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 8-bit unsigned minimum filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.78 NppStatus nppiFilterMin_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Single channel 8-bit unsigned minimum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.79 NppStatus nppiFilterMin_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Three channel 8-bit unsigned minimum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.80 NppStatus nppiFilterMin_8u_C4R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*)

Four channel 8-bit unsigned minimum filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Max operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.81 NppStatus nppiFilterMinBorder_16s_AC4R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit signed minimum filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Min operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.82 NppStatus nppiFilterMinBorder_16s_C1R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Single channel 16-bit signed minimum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Min operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.83 NppStatus nppiFilterMinBorder_16s_C3R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Three channel 16-bit signed minimum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Min operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.84 NppStatus nppiFilterMinBorder_16s_C4R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit signed minimum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Min operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.85 NppStatus nppiFilterMinBorder_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned minimum filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Min operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.86 NppStatus nppiFilterMinBorder_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Single channel 16-bit unsigned minimum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Min operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.87 NppStatus nppiFilterMinBorder_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Three channel 16-bit unsigned minimum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Min operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.88 NppStatus nppiFilterMinBorder_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned minimum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Min operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.89 NppStatus nppiFilterMinBorder_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point minimum filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Min operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.90 NppStatus nppiFilterMinBorder_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point minimum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Min operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.91 NppStatus nppiFilterMinBorder_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Three channel 32-bit floating-point minimum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Min operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.92 NppStatus nppiFilterMinBorder_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point minimum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Min operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.93 NppStatus nppiFilterMinBorder_8u_AC4R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned minimum filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Min operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.94 NppStatus nppiFilterMinBorder_8u_C1R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned minimum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Min operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.95 NppStatus nppiFilterMinBorder_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned minimum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Min operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.10.1.96 NppStatus nppiFilterMinBorder_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiSize *oMaskSize*, NppiPoint *oAnchor*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned minimum filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

oMaskSize Width and Height of the neighborhood region for the local Min operation.

oAnchor X and Y offsets of the kernel origin frame of reference relative to the source pixel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11 Fixed Filters

Fixed filters perform linear filtering operations (such as convolutions) with predefined kernels of fixed sizes.

FilterPrewittHoriz

Filters the image using a horizontal Prewitt filter kernel:

$$\begin{pmatrix} 1 & 1 & 1 \\ 0 & 0 & 0 \\ -1 & -1 & -1 \end{pmatrix}$$

- NppStatus nppiFilterPrewittHoriz_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 8-bit unsigned horizontal Prewitt filter.

- NppStatus nppiFilterPrewittHoriz_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Three channel 8-bit unsigned horizontal Prewitt filter.

- NppStatus nppiFilterPrewittHoriz_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 8-bit unsigned horizontal Prewitt filter.

- NppStatus nppiFilterPrewittHoriz_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 8-bit unsigned horizontal Prewitt filter, ignoring alpha channel.

- NppStatus nppiFilterPrewittHoriz_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 16-bit signed horizontal Prewitt filter.

- NppStatus nppiFilterPrewittHoriz_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Three channel 16-bit signed horizontal Prewitt filter.

- NppStatus nppiFilterPrewittHoriz_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 16-bit signed horizontal Prewitt filter.

- NppStatus nppiFilterPrewittHoriz_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 16-bit signed horizontal Prewitt filter, ignoring alpha channel.

- NppStatus nppiFilterPrewittHoriz_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 32-bit floating-point horizontal Prewitt filter.

- NppStatus nppiFilterPrewittHoriz_32f_C3R (const Npp32f *pSrc, Npp32s nSrcStep, Npp32f *pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Three channel 32-bit floating-point horizontal Prewitt filter.

- NppStatus nppiFilterPrewittHoriz_32f_C4R (const Npp32f *pSrc, Npp32s nSrcStep, Npp32f *pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 32-bit floating-point horizontal Prewitt filter.

- NppStatus nppiFilterPrewittHoriz_32f_AC4R (const Npp32f *pSrc, Npp32s nSrcStep, Npp32f *pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 32-bit floating-point horizontal Prewitt filter, ignoring alpha channel.

FilterPrewittHorizBorder

Filters the image using a horizontal Prewitt filter kernel with border control.

If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported.

$$\begin{pmatrix} 1 & 1 & 1 \\ 0 & 0 & 0 \\ -1 & -1 & -1 \end{pmatrix}$$

- NppStatus nppiFilterPrewittHorizBorder_8u_C1R (const Npp8u *pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 8-bit unsigned horizontal Prewitt filter with border control.

- NppStatus nppiFilterPrewittHorizBorder_8u_C3R (const Npp8u *pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Three channel 8-bit unsigned horizontal Prewitt filter with border control.

- NppStatus nppiFilterPrewittHorizBorder_8u_C4R (const Npp8u *pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 8-bit unsigned horizontal Prewitt filter with border control.

- NppStatus nppiFilterPrewittHorizBorder_8u_AC4R (const Npp8u *pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 8-bit unsigned horizontal Prewitt filter with border control, ignoring alpha channel.

- NppStatus nppiFilterPrewittHorizBorder_16s_C1R (const Npp16s *pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 16-bit signed horizontal Prewitt filter with border control.

- NppStatus nppiFilterPrewittHorizBorder_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

    Three channel 16-bit signed horizontal Prewitt filter with border control.

- NppStatus nppiFilterPrewittHorizBorder_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

    Four channel 16-bit signed horizontal Prewitt filter with border control.

- NppStatus nppiFilterPrewittHorizBorder_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

    Four channel 16-bit signed horizontal Prewitt filter with border control, ignoring alpha channel.

- NppStatus nppiFilterPrewittHorizBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

    Single channel 32-bit floating-point horizontal Prewitt filter with border control.

- NppStatus nppiFilterPrewittHorizBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

    Three channel 32-bit floating-point horizontal Prewitt filter with border control.

- NppStatus nppiFilterPrewittHorizBorder_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

    Four channel 32-bit floating-point horizontal Prewitt filter with border control.

- NppStatus nppiFilterPrewittHorizBorder_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

    Four channel 32-bit floating-point horizontal Prewitt filter with border control, ignoring alpha channel.

FilterPrewittVert

Filters the image using a vertical Prewitt filter kernel:

$$\begin{pmatrix} -1 & 0 & 1 \\ -1 & 0 & 1 \\ -1 & 0 & 1 \end{pmatrix}$$

- NppStatus nppiFilterPrewittVert_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

    Single channel 8-bit unsigned vertical Prewitt filter.

- NppStatus nppiFilterPrewittVert_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

    Three channel 8-bit unsigned vertical Prewitt filter.

- NppStatus nppiFilterPrewittVert_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 8-bit unsigned vertical Prewitt filter.

- NppStatus nppiFilterPrewittVert_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 8-bit unsigned vertical Prewitt filter, ignoring alpha channel.

- NppStatus nppiFilterPrewittVert_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 16-bit signed vertical Prewitt filter.

- NppStatus nppiFilterPrewittVert_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Three channel 16-bit signed vertical Prewitt filter.

- NppStatus nppiFilterPrewittVert_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 16-bit signed vertical Prewitt filter.

- NppStatus nppiFilterPrewittVert_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 16-bit signed vertical Prewitt filter, ignoring alpha channel.

- NppStatus nppiFilterPrewittVert_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 32-bit floating-point vertical Prewitt filter.

- NppStatus nppiFilterPrewittVert_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Three channel 32-bit floating-point vertical Prewitt filter.

- NppStatus nppiFilterPrewittVert_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 32-bit floating-point vertical Prewitt filter.

- NppStatus nppiFilterPrewittVert_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 32-bit floating-point vertical Prewitt filter, ignoring alpha channel.

FilterPrewittVertBorder

Filters the image using a vertical Prewitt filter kernel with border control.

If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported.

$$\begin{pmatrix} -1 & 0 & 1 \\ -1 & 0 & 1 \\ -1 & 0 & 1 \end{pmatrix};$$

- NppStatus nppiFilterPrewittVertBorder_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 8-bit unsigned vertical Prewitt filter with border control.

- NppStatus nppiFilterPrewittVertBorder_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Three channel 8-bit unsigned vertical Prewitt filter with border control.

- NppStatus nppiFilterPrewittVertBorder_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 8-bit unsigned vertical Prewitt filter with border control.

- NppStatus nppiFilterPrewittVertBorder_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 8-bit unsigned vertical Prewitt filter with border control, ignoring alpha channel.

- NppStatus nppiFilterPrewittVertBorder_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 16-bit signed vertical Prewitt filter with border control.

- NppStatus nppiFilterPrewittVertBorder_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Three channel 16-bit signed vertical Prewitt filter with border control.

- NppStatus nppiFilterPrewittVertBorder_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 16-bit signed vertical Prewitt filter with border control.

- NppStatus nppiFilterPrewittVertBorder_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 16-bit signed vertical Prewitt filter with border control, ignoring alpha channel.

- NppStatus nppiFilterPrewittVertBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 32-bit floating-point vertical Prewitt filter with border control.

- NppStatus nppiFilterPrewittVertBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Three channel 32-bit floating-point vertical Prewitt filter with border control.

- NppStatus nppiFilterPrewittVertBorder_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 32-bit floating-point vertical Prewitt filter with border control.

- NppStatus nppiFilterPrewittVertBorder_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 32-bit floating-point vertical Prewitt filter with border control, ignoring alpha channel.

FilterScharrHoriz

Filters the image using a horizontal Scharr filter kernel:

$$\begin{pmatrix} 3 & 10 & 3 \\ 0 & 0 & 0 \\ -3 & -10 & -3 \end{pmatrix}$$

- NppStatus nppiFilterScharrHoriz_8u16s_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 8-bit unsigned to 16-bit signed horizontal Scharr filter.

- NppStatus nppiFilterScharrHoriz_8s16s_C1R (const Npp8s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 8-bit signed to 16-bit signed horizontal Scharr filter.

- NppStatus nppiFilterScharrHoriz_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 32-bit floating-point horizontal Scharr filter.

FilterScharrVert

Filters the image using a vertical Scharr filter kernel:

$$\begin{pmatrix} 3 & 0 & -3 \\ 10 & 0 & -10 \\ 3 & 0 & -3 \end{pmatrix}$$

- NppStatus nppiFilterScharrVert_8u16s_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 8-bit unsigned to 16-bit signed vertical Scharr filter.

- NppStatus nppiFilterScharrVert_8s16s_C1R (const Npp8s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 8-bit signed to 16-bit signed vertical Scharr filter.

- NppStatus nppiFilterScharrVert_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 32-bit floating-point vertical Scharr filter.

FilterScharrHorizBorder

Filters the image using a horizontal Scharr filter kernel with border control:

$$\begin{pmatrix} 3 & 10 & 3 \\ 0 & 0 & 0 \\ -3 & -10 & -3 \end{pmatrix}$$

- NppStatus nppiFilterScharrHorizBorder_8u16s_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 8-bit unsigned to 16-bit signed horizontal Scharr filter kernel with border control.

- NppStatus nppiFilterScharrHorizBorder_8s16s_C1R (const Npp8s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 8-bit signed to 16-bit signed horizontal Scharr filter kernel with border control.

- NppStatus nppiFilterScharrHorizBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 32-bit floating-point horizontal Scharr filter kernel with border control.

FilterScharrVertBorder

Filters the image using a vertical Scharr filter kernel kernel with border control:

$$\begin{pmatrix} 3 & 0 & -3 \\ 10 & 0 & -10 \\ 3 & 0 & -3 \end{pmatrix}$$

- NppStatus nppiFilterScharrVertBorder_8u16s_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 8-bit unsigned to 16-bit signed vertical Scharr filter kernel with border control.

- NppStatus nppiFilterScharrVertBorder_8s16s_C1R (const Npp8s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 8-bit signed to 16-bit signed vertical Scharr filter kernel with border control.

- NppStatus nppiFilterScharrVertBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 32-bit floating-point vertical Scharr filter kernel with border control.

FilterSobelHoriz

Filters the image using a horizontal Sobel filter kernel:

$$\begin{pmatrix} 1 & 2 & 1 \\ 0 & 0 & 0 \\ -1 & -2 & -1 \end{pmatrix} \begin{pmatrix} 1 & 4 & 6 & 4 & 1 \\ 2 & 8 & 12 & 8 & 2 \\ 0 & 0 & 0 & 0 & 0 \\ -2 & -8 & -12 & -8 & -2 \\ -1 & -4 & -6 & -4 & -1 \end{pmatrix}$$

- NppStatus nppiFilterSobelHoriz_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 8-bit unsigned horizontal Sobel filter.

- NppStatus nppiFilterSobelHoriz_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Three channel 8-bit unsigned horizontal Sobel filter.

- NppStatus nppiFilterSobelHoriz_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 8-bit unsigned horizontal Sobel filter.

- NppStatus nppiFilterSobelHoriz_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 16-bit signed horizontal Sobel filter, ignoring alpha channel.

- NppStatus nppiFilterSobelHoriz_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 16-bit signed horizontal Sobel filter.

- NppStatus nppiFilterSobelHoriz_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Three channel 16-bit signed horizontal Sobel filter.

- NppStatus nppiFilterSobelHoriz_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 16-bit signed horizontal Sobel filter.

- NppStatus nppiFilterSobelHoriz_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 8-bit unsigned horizontal Sobel filter, ignoring alpha channel.

- NppStatus nppiFilterSobelHoriz_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

Single channel 32-bit floating-point horizontal Sobel filter.

- NppStatus nppiFilterSobelHoriz_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Three channel 32-bit floating-point horizontal Sobel filter.

- NppStatus nppiFilterSobelHoriz_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 32-bit floating-point horizontal Sobel filter.

- NppStatus nppiFilterSobelHoriz_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 32-bit floating-point horizontal Sobel filter, ignoring alpha channel.

- NppStatus nppiFilterSobelHoriz_8u16s_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 8-bit unsigned to 16-bit signed horizontal Sobel filter.

- NppStatus nppiFilterSobelHoriz_8s16s_C1R (const Npp8s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 8-bit signed to 16-bit signed horizontal Sobel filter.

- NppStatus nppiFilterSobelHorizMask_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 32-bit floating-point horizontal Sobel filter.

FilterSobelVert

Filters the image using a vertical Sobel filter kernel:

$$\begin{pmatrix} -1 & 0 & 1 \\ -2 & 0 & 2 \\ -1 & 0 & 1 \end{pmatrix} \begin{pmatrix} -1 & -2 & 0 & 2 & 1 \\ -4 & -8 & 0 & 8 & 4 \\ -6 & -12 & 0 & 12 & 6 \\ -4 & -8 & 0 & 8 & 4 \\ -1 & -2 & 0 & 2 & 1 \end{pmatrix}$$

- NppStatus nppiFilterSobelVert_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 8-bit unsigned vertical Sobel filter.

- NppStatus nppiFilterSobelVert_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Three channel 8-bit unsigned vertical Sobel filter.

- NppStatus nppiFilterSobelVert_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 8-bit unsigned vertical Sobel filter.

- NppStatus nppiFilterSobelVert_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

Four channel 16-bit signed vertical Sobel filter, ignoring alpha channel.

- NppStatus nppiFilterSobelVert_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 16-bit signed vertical Sobel filter.

- NppStatus nppiFilterSobelVert_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Three channel 16-bit signed vertical Sobel filter.

- NppStatus nppiFilterSobelVert_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 16-bit signed vertical Sobel filter.

- NppStatus nppiFilterSobelVert_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 8-bit unsigned vertical Sobel filter, ignoring alpha channel.

- NppStatus nppiFilterSobelVert_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 32-bit floating-point vertical Sobel filter.

- NppStatus nppiFilterSobelVert_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Three channel 32-bit floating-point vertical Sobel filter.

- NppStatus nppiFilterSobelVert_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 32-bit floating-point vertical Sobel filter.

- NppStatus nppiFilterSobelVert_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 32-bit floating-point vertical Sobel filter, ignoring alpha channel.

- NppStatus nppiFilterSobelVert_8u16s_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 8-bit unsigned to 16-bit signed vertical Sobel filter.

- NppStatus nppiFilterSobelVert_8s16s_C1R (const Npp8s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 8-bit signed to 16-bit signed vertical Sobel filter.

- NppStatus nppiFilterSobelVertMask_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 32-bit floating-point vertical Sobel filter.

FilterSobelHorizSecond

Filters the image using a second derivative, horizontal Sobel filter kernel:

$$\begin{pmatrix} 1 & 2 & 1 \\ -2 & -4 & -2 \\ 1 & 2 & 1 \end{pmatrix} \begin{pmatrix} 1 & 4 & 6 & 4 & 1 \\ 0 & 0 & 0 & 0 & 0 \\ -2 & -8 & -12 & -8 & -2 \\ 0 & 0 & 0 & 0 & 0 \\ 1 & 4 & 6 & 4 & 1 \end{pmatrix}$$

- NppStatus nppiFilterSobelHorizSecond_8u16s_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 8-bit unsigned to 16-bit signed second derivative, horizontal Sobel filter.

- NppStatus nppiFilterSobelHorizSecond_8s16s_C1R (const Npp8s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 8-bit signed to 16-bit signed second derivative, horizontal Sobel filter.

- NppStatus nppiFilterSobelHorizSecond_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 32-bit floating-point second derivative, horizontal Sobel filter.

FilterSobelVertSecond

Filters the image using a second derivative, vertical Sobel filter kernel:

$$\begin{pmatrix} 1 & -2 & 1 \\ 2 & -4 & 2 \\ 1 & -2 & 1 \end{pmatrix} \begin{pmatrix} 1 & 0 & -2 & 0 & 1 \\ 4 & 0 & -8 & 0 & 4 \\ 6 & 0 & -12 & 0 & 6 \\ 4 & 0 & -8 & 0 & 4 \\ 1 & 0 & -2 & 0 & 1 \end{pmatrix}$$

- NppStatus nppiFilterSobelVertSecond_8u16s_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 8-bit unsigned to 16-bit signed second derivative, vertical Sobel filter.

- NppStatus nppiFilterSobelVertSecond_8s16s_C1R (const Npp8s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 8-bit signed to 16-bit signed second derivative, vertical Sobel filter.

- NppStatus nppiFilterSobelVertSecond_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 32-bit floating-point second derivative, vertical Sobel filter.

FilterSobelCross

Filters the image using a second cross derivative Sobel filter kernel:

$$\begin{pmatrix} -1 & 0 & 1 \\ 0 & 0 & 0 \\ 1 & 0 & -1 \end{pmatrix} \begin{pmatrix} -1 & -2 & 0 & 2 & 1 \\ -2 & -4 & 0 & 4 & 2 \\ 0 & 0 & 0 & 0 & 0 \\ 2 & 4 & 0 & -4 & -2 \\ 1 & 2 & 0 & -2 & -1 \end{pmatrix}$$

- NppStatus nppiFilterSobelCross_8u16s_C1R (const Npp8u *pSrc, Npp32s nSrcStep, Npp16s *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 8-bit unsigned to 16-bit signed second cross derivative Sobel filter.

- NppStatus nppiFilterSobelCross_8s16s_C1R (const Npp8s *pSrc, Npp32s nSrcStep, Npp16s *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 8-bit signed to 16-bit signed second cross derivative Sobel filter.

- NppStatus nppiFilterSobelCross_32f_C1R (const Npp32f *pSrc, Npp32s nSrcStep, Npp32f *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 32-bit floating-point second cross derivative Sobel filter.

FilterSobelHorizBorder

Filters the image using a horizontal Sobel filter kernel with border control:

$$\begin{pmatrix} 1 & 2 & 1 \\ 0 & 0 & 0 \\ -1 & -2 & -1 \end{pmatrix} \begin{pmatrix} 1 & 4 & 6 & 4 & 1 \\ 2 & 8 & 12 & 8 & 2 \\ 0 & 0 & 0 & 0 & 0 \\ -2 & -8 & -12 & -8 & -2 \\ -1 & -4 & -6 & -4 & -1 \end{pmatrix}$$

- NppStatus nppiFilterSobelHorizBorder_8u_C1R (const Npp8u *pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 8-bit unsigned horizontal Sobel filter with border control.

- NppStatus nppiFilterSobelHorizBorder_8u_C3R (const Npp8u *pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Three channel 8-bit unsigned horizontal Sobel filter with border control.

- NppStatus nppiFilterSobelHorizBorder_8u_C4R (const Npp8u *pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 8-bit unsigned horizontal Sobel filter with border control.

- NppStatus nppiFilterSobelHorizBorder_8u_AC4R (const Npp8u *pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 16-bit signed horizontal Sobel filter with border control, ignoring alpha channel.

- NppStatus nppiFilterSobelHorizBorder_16s_C1R (const Npp16s *pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 16-bit signed horizontal Sobel filter with border control.

- NppStatus nppiFilterSobelHorizBorder_16s_C3R (const Npp16s *pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

Three channel 16-bit signed horizontal Sobel filter with border control.

- NppStatus nppiFilterSobelHorizBorder_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 16-bit signed horizontal Sobel filter with border control.

- NppStatus nppiFilterSobelHorizBorder_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 8-bit unsigned horizontal Sobel filter with border control, ignoring alpha channel.

- NppStatus nppiFilterSobelHorizBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 32-bit floating-point horizontal Sobel filter with border control.

- NppStatus nppiFilterSobelHorizBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Three channel 32-bit floating-point horizontal Sobel filter with border control.

- NppStatus nppiFilterSobelHorizBorder_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 32-bit floating-point horizontal Sobel filter with border control.

- NppStatus nppiFilterSobelHorizBorder_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 32-bit floating-point horizontal Sobel filter with border control, ignoring alpha channel.

- NppStatus nppiFilterSobelHorizBorder_8u16s_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 8-bit unsigned to 16-bit signed horizontal Sobel filter with border control.

- NppStatus nppiFilterSobelHorizBorder_8s16s_C1R (const Npp8s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 8-bit signed to 16-bit signed horizontal Sobel filter with border control.

- NppStatus nppiFilterSobelHorizMaskBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 32-bit floating-point horizontal Sobel filter with border control.

FilterSobelVertBorder

Filters the image using a vertical Sobel filter kernel with border control:

$$\begin{pmatrix} -1 & 0 & 1 \\ -2 & 0 & 2 \\ -1 & 0 & 1 \end{pmatrix} \begin{pmatrix} -1 & -2 & 0 & 2 & 1 \\ -4 & -8 & 0 & 8 & 4 \\ -6 & -12 & 0 & 12 & 6 \\ -4 & -8 & 0 & 8 & 4 \\ -1 & -2 & 0 & 2 & 1 \end{pmatrix}$$

- NppStatus nppiFilterSobelVertBorder_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 8-bit unsigned vertical Sobel filter with border control.

- NppStatus nppiFilterSobelVertBorder_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Three channel 8-bit unsigned vertical Sobel filter with border control.

- NppStatus nppiFilterSobelVertBorder_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 8-bit unsigned vertical Sobel filter with border control.

- NppStatus nppiFilterSobelVertBorder_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 16-bit signed vertical Sobel filter with border control, ignoring alpha channel.

- NppStatus nppiFilterSobelVertBorder_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 16-bit signed vertical Sobel filter with border control.

- NppStatus nppiFilterSobelVertBorder_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Three channel 16-bit signed vertical Sobel filter with border control.

- NppStatus nppiFilterSobelVertBorder_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 16-bit signed vertical Sobel filter with border control.

- NppStatus nppiFilterSobelVertBorder_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 8-bit unsigned vertical Sobel filter with border control, ignoring alpha channel.

- NppStatus nppiFilterSobelVertBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 32-bit floating-point vertical Sobel filter with border control.

- NppStatus nppiFilterSobelVertBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Three channel 32-bit floating-point vertical Sobel filter with border control.

- NppStatus nppiFilterSobelVertBorder_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 32-bit floating-point vertical Sobel filter with border control.

- NppStatus nppiFilterSobelVertBorder_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 32-bit floating-point vertical Sobel filter with border control, ignoring alpha channel.

- NppStatus nppiFilterSobelVertBorder_8u16s_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 8-bit unsigned to 16-bit signed vertical Sobel filter with border control.

- NppStatus nppiFilterSobelVertBorder_8s16s_C1R (const Npp8s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 8-bit signed to 16-bit signed vertical Sobel filter with border control.

- NppStatus nppiFilterSobelVertMaskBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 32-bit floating-point vertical Sobel filter with border control.

FilterSobelHorizSecondBorder

Filters the image using a second derivative, horizontal Sobel filter kernel with border control:

$$\begin{pmatrix} 1 & 2 & 1 \\ -2 & -4 & -2 \\ 1 & 2 & 1 \end{pmatrix} \begin{pmatrix} 1 & 4 & 6 & 4 & 1 \\ 0 & 0 & 0 & 0 & 0 \\ -2 & -8 & -12 & -8 & -2 \\ 0 & 0 & 0 & 0 & 0 \\ 1 & 4 & 6 & 4 & 1 \end{pmatrix}$$

- NppStatus nppiFilterSobelHorizSecondBorder_8u16s_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 8-bit unsigned to 16-bit signed second derivative, horizontal Sobel filter with border control.

- NppStatus nppiFilterSobelHorizSecondBorder_8s16s_C1R (const Npp8s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 8-bit signed to 16-bit signed second derivative, horizontal Sobel filter with border control.

- NppStatus nppiFilterSobelHorizSecondBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 32-bit floating-point second derivative, horizontal Sobel filter with border control.

FilterSobelVertSecondBorder

Filters the image using a second derivative, vertical Sobel filter kernel with border control:

$$\begin{pmatrix} 1 & -2 & 1 \\ 2 & -4 & 2 \\ 1 & -2 & 1 \end{pmatrix} \begin{pmatrix} 1 & 0 & -2 & 0 & 1 \\ 4 & 0 & -8 & 0 & 4 \\ 6 & 0 & -12 & 0 & 6 \\ 4 & 0 & -8 & 0 & 4 \\ 1 & 0 & -2 & 0 & 1 \end{pmatrix}$$

- NppStatus nppiFilterSobelVertSecondBorder_8u16s_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 8-bit unsigned to 16-bit signed second derivative, vertical Sobel filter with border control.

- NppStatus nppiFilterSobelVertSecondBorder_8s16s_C1R (const Npp8s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 8-bit signed to 16-bit signed second derivative, vertical Sobel filter with border control.

- NppStatus nppiFilterSobelVertSecondBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 32-bit floating-point second derivative, vertical Sobel filter with border control.

FilterSobelCrossBorder

Filters the image using a second cross derivative Sobel filter kernel with border control:

$$\begin{pmatrix} -1 & 0 & 1 \\ 0 & 0 & 0 \\ 1 & 0 & -1 \end{pmatrix} \begin{pmatrix} -1 & -2 & 0 & 2 & 1 \\ -2 & -4 & 0 & 4 & 2 \\ 0 & 0 & 0 & 0 & 0 \\ 2 & 4 & 0 & -4 & -2 \\ 1 & 2 & 0 & -2 & -1 \end{pmatrix}$$

- NppStatus nppiFilterSobelCrossBorder_8u16s_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 8-bit unsigned to 16-bit signed second cross derivative Sobel filter with border control.

- NppStatus nppiFilterSobelCrossBorder_8s16s_C1R (const Npp8s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

Single channel 8-bit signed to 16-bit signed second cross derivative Sobel filter with border control.

- NppStatus nppiFilterSobelCrossBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 32-bit floating-point second cross derivative Sobel filter with border control.

FilterRobertsDown

Filters the image using a horizontal Roberts filter kernel:

$$\begin{pmatrix} 0 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix}$$

- NppStatus nppiFilterRobertsDown_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 8-bit unsigned horizontal Roberts filter.

- NppStatus nppiFilterRobertsDown_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Three channel 8-bit unsigned horizontal Roberts filter.

- NppStatus nppiFilterRobertsDown_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 8-bit unsigned horizontal Roberts filter.

- NppStatus nppiFilterRobertsDown_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 8-bit unsigned horizontal Roberts filter, ignoring alpha-channel.

- NppStatus nppiFilterRobertsDown_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 16-bit signed horizontal Roberts filter.

- NppStatus nppiFilterRobertsDown_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Three channel 16-bit signed horizontal Roberts filter.

- NppStatus nppiFilterRobertsDown_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 16-bit signed horizontal Roberts filter.

- NppStatus nppiFilterRobertsDown_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 16-bit signed horizontal Roberts filter, ignoring alpha-channel.

- NppStatus nppiFilterRobertsDown_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

Single channel 32-bit floating-point horizontal Roberts filter.

- NppStatus nppiFilterRobertsDown_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Three channel 32-bit floating-point horizontal Roberts filter.

- NppStatus nppiFilterRobertsDown_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 32-bit floating-point horizontal Roberts filter.

- NppStatus nppiFilterRobertsDown_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 32-bit floating-point horizontal Roberts filter, ignoring alpha-channel.

FilterRobertsDownBorder

Filters the image using a horizontal Roberts filter kernel with border control.

If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported.

$$\begin{pmatrix} 0 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix}$$

- NppStatus nppiFilterRobertsDownBorder_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 8-bit unsigned horizontal Roberts filter with border control.

- NppStatus nppiFilterRobertsDownBorder_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Three channel 8-bit unsigned horizontal Roberts filter with border control.

- NppStatus nppiFilterRobertsDownBorder_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 8-bit unsigned horizontal Roberts filter with border control.

- NppStatus nppiFilterRobertsDownBorder_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 8-bit unsigned horizontal Roberts filter with border control, ignoring alpha-channel.

- NppStatus nppiFilterRobertsDownBorder_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 16-bit signed horizontal Roberts filter with border control.

- NppStatus nppiFilterRobertsDownBorder_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Three channel 16-bit signed horizontal Roberts filter with border control.

- NppStatus nppiFilterRobertsDownBorder_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 16-bit signed horizontal Roberts filter with border control.

- NppStatus nppiFilterRobertsDownBorder_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 16-bit signed horizontal Roberts filter with border control, ignoring alpha-channel.

- NppStatus nppiFilterRobertsDownBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 32-bit floating-point horizontal Roberts filter with border control.

- NppStatus nppiFilterRobertsDownBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Three channel 32-bit floating-point horizontal Roberts filter with border control.

- NppStatus nppiFilterRobertsDownBorder_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 32-bit floating-point horizontal Roberts filter with border control.

- NppStatus nppiFilterRobertsDownBorder_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 32-bit floating-point horizontal Roberts filter with border control, ignoring alpha-channel.

FilterRobertsUp

Filters the image using a vertical Roberts filter kernel:

$$\begin{pmatrix} 0 & 0 & 0 \\ 0 & 1 & 0 \\ -1 & 0 & 0 \end{pmatrix}$$

- NppStatus nppiFilterRobertsUp_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 8-bit unsigned vertical Roberts filter.

- NppStatus nppiFilterRobertsUp_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

Three channel 8-bit unsigned vertical Roberts filter.

- NppStatus nppiFilterRobertsUp_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 8-bit unsigned vertical Roberts filter.

- NppStatus nppiFilterRobertsUp_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 8-bit unsigned vertical Roberts filter, ignoring alpha-channel.

- NppStatus nppiFilterRobertsUp_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 16-bit signed vertical Roberts filter.

- NppStatus nppiFilterRobertsUp_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Three channel 16-bit signed vertical Roberts filter.

- NppStatus nppiFilterRobertsUp_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 16-bit signed vertical Roberts filter.

- NppStatus nppiFilterRobertsUp_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 16-bit signed vertical Roberts filter, ignoring alpha-channel.

- NppStatus nppiFilterRobertsUp_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 32-bit floating-point vertical Roberts filter.

- NppStatus nppiFilterRobertsUp_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Three channel 32-bit floating-point vertical Roberts filter.

- NppStatus nppiFilterRobertsUp_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 32-bit floating-point vertical Roberts filter.

- NppStatus nppiFilterRobertsUp_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 32-bit floating-point vertical Roberts filter, ignoring alpha-channel.

FilterRobertsUpBorder

Filters the image using a vertical Roberts filter kernel with border control.

If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported.

$$\begin{pmatrix} 0 & 0 & 0 \\ 0 & 1 & 0 \\ -1 & 0 & 0 \end{pmatrix}$$

- NppStatus nppiFilterRobertsUpBorder_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 8-bit unsigned vertical Roberts filter with border control.

- NppStatus nppiFilterRobertsUpBorder_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Three channel 8-bit unsigned vertical Roberts filter with border control.

- NppStatus nppiFilterRobertsUpBorder_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 8-bit unsigned vertical Roberts filter with border control.

- NppStatus nppiFilterRobertsUpBorder_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 8-bit unsigned vertical Roberts filter with border control, ignoring alpha-channel.

- NppStatus nppiFilterRobertsUpBorder_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 16-bit signed vertical Roberts filter with border control.

- NppStatus nppiFilterRobertsUpBorder_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Three channel 16-bit signed vertical Roberts filter with border control.

- NppStatus nppiFilterRobertsUpBorder_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 16-bit signed vertical Roberts filter with border control.

- NppStatus nppiFilterRobertsUpBorder_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 16-bit signed vertical Roberts filter with border control, ignoring alpha-channel.

- NppStatus nppiFilterRobertsUpBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 32-bit floating-point vertical Roberts filter with border control.

- NppStatus nppiFilterRobertsUpBorder_32f_C3R (const Npp32f *pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Three channel 32-bit floating-point vertical Roberts filter with border control.

- NppStatus nppiFilterRobertsUpBorder_32f_C4R (const Npp32f *pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 32-bit floating-point vertical Roberts filter with border control.

- NppStatus nppiFilterRobertsUpBorder_32f_AC4R (const Npp32f *pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 32-bit floating-point vertical Roberts filter with border control, ignoring alpha-channel.

FilterLaplace

Filters the image using a Laplacian filter kernel:

$$\begin{pmatrix} -1 & -1 & -1 \\ -1 & 8 & -1 \\ -1 & -1 & -1 \end{pmatrix} \begin{pmatrix} -1 & -3 & -4 & -3 & -1 \\ -3 & 0 & 6 & 0 & -3 \\ -4 & 6 & 20 & 6 & -4 \\ -3 & 0 & 6 & 0 & -3 \\ -1 & -3 & -4 & -3 & -1 \end{pmatrix}$$

- NppStatus nppiFilterLaplace_8u_C1R (const Npp8u *pSrc, Npp32s nSrcStep, Npp8u *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 8-bit unsigned Laplace filter.

- NppStatus nppiFilterLaplace_8u_C3R (const Npp8u *pSrc, Npp32s nSrcStep, Npp8u *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Three channel 8-bit unsigned Laplace filter.

- NppStatus nppiFilterLaplace_8u_C4R (const Npp8u *pSrc, Npp32s nSrcStep, Npp8u *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 8-bit unsigned Laplace filter.

- NppStatus nppiFilterLaplace_8u_AC4R (const Npp8u *pSrc, Npp32s nSrcStep, Npp8u *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 8-bit unsigned Laplace filter, ignoring alpha channel.

- NppStatus nppiFilterLaplace_16s_C1R (const Npp16s *pSrc, Npp32s nSrcStep, Npp16s *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 16-bit signed Laplace filter.

- NppStatus nppiFilterLaplace_16s_C3R (const Npp16s *pSrc, Npp32s nSrcStep, Npp16s *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Three channel 16-bit signed Laplace filter.

- NppStatus nppiFilterLaplace_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 16-bit signed Laplace filter.

- NppStatus nppiFilterLaplace_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 16-bit signed Laplace filter, ignoring alpha channel.

- NppStatus nppiFilterLaplace_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 32-bit floating-point Laplace filter.

- NppStatus nppiFilterLaplace_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Three channel 32-bit floating-point Laplace filter.

- NppStatus nppiFilterLaplace_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 32-bit floating-point Laplace filter.

- NppStatus nppiFilterLaplace_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 32-bit floating-point Laplace filter, ignoring alpha channel.

- NppStatus nppiFilterLaplace_8u16s_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 8-bit unsigned to 16-bit signed Laplace filter.

- NppStatus nppiFilterLaplace_8s16s_C1R (const Npp8s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 8-bit signed to 16-bit signed Laplace filter.

FilterLaplaceBorder

Filters the image using a Laplacian filter kernel with border control.

If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported.

$$\begin{pmatrix} -1 & -1 & -1 \\ -1 & 8 & -1 \\ -1 & -1 & -1 \end{pmatrix} \begin{pmatrix} -1 & -3 & -4 & -3 & -1 \\ -3 & 0 & 6 & 0 & -3 \\ -4 & 6 & 20 & 6 & -4 \\ -3 & 0 & 6 & 0 & -3 \\ -1 & -3 & -4 & -3 & -1 \end{pmatrix}$$

- NppStatus nppiFilterLaplaceBorder_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 8-bit unsigned Laplace filter with border control.

- NppStatus nppiFilterLaplaceBorder_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Three channel 8-bit unsigned Laplace filter with border control.

- NppStatus nppiFilterLaplaceBorder_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 8-bit unsigned Laplace filter with border control.

- NppStatus nppiFilterLaplaceBorder_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 8-bit unsigned Laplace filter with border control, ignoring alpha channel.

- NppStatus nppiFilterLaplaceBorder_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 16-bit signed Laplace filter with border control.

- NppStatus nppiFilterLaplaceBorder_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Three channel 16-bit signed Laplace filter with border control.

- NppStatus nppiFilterLaplaceBorder_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 16-bit signed Laplace filter with border control.

- NppStatus nppiFilterLaplaceBorder_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 16-bit signed Laplace filter with border control, ignoring alpha channel.

- NppStatus nppiFilterLaplaceBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 32-bit floating-point Laplace filter with border control.

- NppStatus nppiFilterLaplaceBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Three channel 32-bit floating-point Laplace filter with border control.

- NppStatus nppiFilterLaplaceBorder_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 32-bit floating-point Laplace filter with border control.

- NppStatus nppiFilterLaplaceBorder_32f_AC4R (const Npp32f *pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

    Four channel 32-bit floating-point Laplace filter with border control, ignoring alpha channel.

- NppStatus nppiFilterLaplaceBorder_8u16s_C1R (const Npp8u *pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

    Single channel 8-bit unsigned to 16-bit signed Laplace filter with border control.

- NppStatus nppiFilterLaplaceBorder_8s16s_C1R (const Npp8s *pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

    Single channel 8-bit signed to 16-bit signed Laplace filter with border control.

FilterGauss

Filters the image using a Gaussian filter kernel:

Note that all FilterGauss functions currently support mask sizes up to 15x15.

$$\left(\begin{array}{ccc} 1/16 & 2/16 & 1/16 \\ 2/16 & 4/16 & 2/16 \\ 1/16 & 2/16 & 1/16 \end{array}\right) \left(\begin{array}{ccccc} 2/571 & 7/571 & 12/571 & 7/571 & 2/571 \\ 7/571 & 31/571 & 52/571 & 31/571 & 7/571 \\ 12/571 & 52/571 & 127/571 & 52/571 & 12/571 \\ 7/571 & 31/571 & 52/571 & 31/571 & 7/571 \\ 2/571 & 7/571 & 12/571 & 7/571 & 2/571 \end{array}\right)$$

- NppStatus nppiFilterGauss_8u_C1R (const Npp8u *pSrc, Npp32s nSrcStep, Npp8u *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

    Single channel 8-bit unsigned Gauss filter.

- NppStatus nppiFilterGauss_8u_C3R (const Npp8u *pSrc, Npp32s nSrcStep, Npp8u *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

    Three channel 8-bit unsigned Gauss filter.

- NppStatus nppiFilterGauss_8u_C4R (const Npp8u *pSrc, Npp32s nSrcStep, Npp8u *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

    Four channel 8-bit unsigned Gauss filter.

- NppStatus nppiFilterGauss_8u_AC4R (const Npp8u *pSrc, Npp32s nSrcStep, Npp8u *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

    Four channel 8-bit unsigned Gauss filter, ignoring alpha channel.

- NppStatus nppiFilterGauss_16u_C1R (const Npp16u *pSrc, Npp32s nSrcStep, Npp16u *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

    Single channel 16-bit unsigned Gauss filter.

- NppStatus nppiFilterGauss_16u_C3R (const Npp16u *pSrc, Npp32s nSrcStep, Npp16u *pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

    Three channel 16-bit unsigned Gauss filter.

- NppStatus nppiFilterGauss_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 16-bit unsigned Gauss filter.

- NppStatus nppiFilterGauss_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 16-bit unsigned Gauss filter, ignoring alpha channel.

- NppStatus nppiFilterGauss_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 16-bit signed Gauss filter.

- NppStatus nppiFilterGauss_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Three channel 16-bit signed Gauss filter.

- NppStatus nppiFilterGauss_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 16-bit signed Gauss filter.

- NppStatus nppiFilterGauss_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 16-bit signed Gauss filter, ignoring alpha channel.

- NppStatus nppiFilterGauss_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 32-bit floating-point Gauss filter.

- NppStatus nppiFilterGauss_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Three channel 32-bit floating-point Gauss filter.

- NppStatus nppiFilterGauss_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 32-bit floating-point Gauss filter.

- NppStatus nppiFilterGauss_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 32-bit floating-point Gauss filter, ignoring alpha channel.

FilterGaussAdvanced

Filters the image using a separable Gaussian filter kernel with user supplied floating point coefficients:

- NppStatus nppiFilterGaussAdvanced_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel)

  Single channel 8-bit unsigned Gauss filter.

- NppStatus nppiFilterGaussAdvanced_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel)

  Three channel 8-bit unsigned Gauss filter.

- NppStatus nppiFilterGaussAdvanced_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel)

  Four channel 8-bit unsigned Gauss filter.

- NppStatus nppiFilterGaussAdvanced_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel)

  Four channel 8-bit unsigned Gauss filter, ignoring alpha channel.

- NppStatus nppiFilterGaussAdvanced_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel)

  Single channel 16-bit unsigned Gauss filter.

- NppStatus nppiFilterGaussAdvanced_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel)

  Three channel 16-bit unsigned Gauss filter.

- NppStatus nppiFilterGaussAdvanced_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel)

  Four channel 16-bit unsigned Gauss filter.

- NppStatus nppiFilterGaussAdvanced_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel)

  Four channel 16-bit unsigned Gauss filter, ignoring alpha channel.

- NppStatus nppiFilterGaussAdvanced_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel)

  Single channel 16-bit signed Gauss filter.

- NppStatus nppiFilterGaussAdvanced_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel)

  Three channel 16-bit signed Gauss filter.

- NppStatus nppiFilterGaussAdvanced_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel)

  Four channel 16-bit signed Gauss filter.

- NppStatus nppiFilterGaussAdvanced_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel)

  Four channel 16-bit signed Gauss filter, ignoring alpha channel.

- NppStatus nppiFilterGaussAdvanced_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel)

  Single channel 32-bit floating-point Gauss filter.

- NppStatus nppiFilterGaussAdvanced_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel)

  Three channel 32-bit floating-point Gauss filter.

- NppStatus nppiFilterGaussAdvanced_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel)

  Four channel 32-bit floating-point Gauss filter.

- NppStatus nppiFilterGaussAdvanced_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel)

  Four channel 32-bit floating-point Gauss filter, ignoring alpha channel.

FilterGaussBorder

If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported.

Note that all FilterGaussBorder functions currently support mask sizes up to 15x15.

Filters the image using a Gaussian filter kernel:

$$\begin{pmatrix} 1/16 & 2/16 & 1/16 \\ 2/16 & 4/16 & 2/16 \\ 1/16 & 2/16 & 1/16 \end{pmatrix} \begin{pmatrix} 2/571 & 7/571 & 12/571 & 7/571 & 2/571 \\ 7/571 & 31/571 & 52/571 & 31/571 & 7/571 \\ 12/571 & 52/571 & 127/571 & 52/571 & 12/571 \\ 7/571 & 31/571 & 52/571 & 31/571 & 7/571 \\ 2/571 & 7/571 & 12/571 & 7/571 & 2/571 \end{pmatrix}$$

- NppStatus nppiFilterGaussBorder_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 8-bit unsigned Gauss filter with border control.

- NppStatus nppiFilterGaussBorder_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Three channel 8-bit unsigned Gauss filter with border control.

- NppStatus nppiFilterGaussBorder_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 8-bit unsigned Gauss filter with border control.

- NppStatus nppiFilterGaussBorder_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 8-bit unsigned Gauss filter with border control, ignoring alpha channel.

- NppStatus nppiFilterGaussBorder_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 16-bit unsigned Gauss filter with border control.

- NppStatus nppiFilterGaussBorder_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Three channel 16-bit unsigned Gauss filter with border control.

- NppStatus nppiFilterGaussBorder_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 16-bit unsigned Gauss filter with border control.

- NppStatus nppiFilterGaussBorder_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 16-bit unsigned Gauss filter with border control, ignoring alpha channel.

- NppStatus nppiFilterGaussBorder_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 16-bit signed Gauss filter with border control.

- NppStatus nppiFilterGaussBorder_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Three channel 16-bit signed Gauss filter with border control.

- NppStatus nppiFilterGaussBorder_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 16-bit signed Gauss filter with border control.

- NppStatus nppiFilterGaussBorder_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 16-bit signed Gauss filter with border control, ignoring alpha channel.

- NppStatus nppiFilterGaussBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 32-bit floating-point Gauss filter with border control.

- NppStatus nppiFilterGaussBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Three channel 32-bit floating-point Gauss filter with border control.

- NppStatus nppiFilterGaussBorder_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 32-bit floating-point Gauss filter with border control.

- NppStatus nppiFilterGaussBorder_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 32-bit floating-point Gauss filter with border control, ignoring alpha channel.

FilterGaussAdvancedBorder

Filters the image using a separable Gaussian filter kernel with user supplied floating point coefficients with border control: If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE and NPP_BORDER_MIRROR border type operations are supported.

- NppStatus nppiFilterGaussAdvancedBorder_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Single channel 8-bit unsigned Gauss filter with border control.

- NppStatus nppiFilterGaussAdvancedBorder_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Three channel 8-bit unsigned Gauss filter with border control.

- NppStatus nppiFilterGaussAdvancedBorder_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Four channel 8-bit unsigned Gauss filter with border control.

- NppStatus nppiFilterGaussAdvancedBorder_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Four channel 8-bit unsigned Gauss filter with border control, ignoring alpha channel.

- NppStatus nppiFilterGaussAdvancedBorder_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Single channel 16-bit unsigned Gauss filter with border control.

- NppStatus nppiFilterGaussAdvancedBorder_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Three channel 16-bit unsigned Gauss filter with border control.

- NppStatus nppiFilterGaussAdvancedBorder_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Four channel 16-bit unsigned Gauss filter with border control.

- NppStatus nppiFilterGaussAdvancedBorder_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Four channel 16-bit unsigned Gauss filter with border control, ignoring alpha channel.

- NppStatus nppiFilterGaussAdvancedBorder_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Single channel 16-bit signed Gauss filter with border control.

- NppStatus nppiFilterGaussAdvancedBorder_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Three channel 16-bit signed Gauss filter with border control.

- NppStatus nppiFilterGaussAdvancedBorder_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Four channel 16-bit signed Gauss filter with border control.

- NppStatus nppiFilterGaussAdvancedBorder_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Four channel 16-bit signed Gauss filter with border control, ignoring alpha channel.

- NppStatus nppiFilterGaussAdvancedBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Single channel 32-bit floating-point Gauss filter with border control.

- NppStatus nppiFilterGaussAdvancedBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Three channel 32-bit floating-point Gauss filter with border control.

- NppStatus nppiFilterGaussAdvancedBorder_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Four channel 32-bit floating-point Gauss filter with border control.

- NppStatus nppiFilterGaussAdvancedBorder_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Four channel 32-bit floating-point Gauss filter with border control, ignoring alpha channel.

FilterGaussPyramidLayerDownBorder

Filters the image using a separable Gaussian filter kernel with user supplied floating point coefficients with downsampling and border control.

If the downsampling rate is equivalent to an integer value then unnecessary source pixels are just skipped. If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_MIRROR and NPP_BORDER_REPLICATE border type operations are supported.

- NppStatus nppiGetFilterGaussPyramidLayerDownBorderDstROI (int nSrcROIWidth, int nSrcROIHeight, NppiSize ∗pDstSizeROI, Npp32f nRate)

  Calculate destination image SizeROI width and height from source image ROI width and height and downsampling rate.

- NppStatus nppiFilterGaussPyramidLayerDownBorder_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRate, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Single channel 8-bit unsigned Gauss filter with downsampling and border control.

- NppStatus nppiFilterGaussPyramidLayerDownBorder_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRate, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Three channel 8-bit unsigned Gauss filter with downsampling and border control.

- NppStatus nppiFilterGaussPyramidLayerDownBorder_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRate, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Single channel 16-bit unsigned Gauss filter with downsampling and border control.

- NppStatus nppiFilterGaussPyramidLayerDownBorder_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRate, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Three channel 16-bit unsigned Gauss filter with downsampling and border control.

- NppStatus nppiFilterGaussPyramidLayerDownBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRate, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Single channel 32-bit floating-point Gauss filter downsampling and with border control.

- NppStatus nppiFilterGaussPyramidLayerDownBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRate, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Three channel 32-bit floating-point Gauss filter with downsampling and border control.

FilterGaussPyramidLayerUpBorder

Filters the image using a separable Gaussian filter kernel with user supplied floating point coefficients with upsampling and border control.

If the upsampling rate is equivalent to an integer value then unnecessary source pixels are just skipped. If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_MIRROR and NPP_BORDER_REPLICATE border type operations are supported.

- NppStatus nppiGetFilterGaussPyramidLayerUpBorderDstROI (int nSrcROIWidth, int nSrcROIHeight, NppiSize ∗pDstSizeROIMin, NppiSize ∗pDstSizeROIMax, Npp32f nRate)

  Calculate destination image minimum and maximum SizeROI width and height from source image ROI width and height and upsampling rate.

- NppStatus nppiFilterGaussPyramidLayerUpBorder_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRate, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Single channel 8-bit unsigned Gauss filter with upsampling and border control.

- NppStatus nppiFilterGaussPyramidLayerUpBorder_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRate, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Three channel 8-bit unsigned Gauss filter with upsampling and border control.

- NppStatus nppiFilterGaussPyramidLayerUpBorder_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRate, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Single channel 16-bit unsigned Gauss filter with upsampling and border control.

- NppStatus nppiFilterGaussPyramidLayerUpBorder_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRate, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Three channel 16-bit unsigned Gauss filter with upsampling and border control.

- NppStatus nppiFilterGaussPyramidLayerUpBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRate, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Single channel 32-bit floating-point Gauss filter upsampling and with border control.

- NppStatus nppiFilterGaussPyramidLayerUpBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRate, const int nFilterTaps, const Npp32f ∗pKernel, NppiBorderType eBorderType)

  Three channel 32-bit floating-point Gauss filter with upsampling and border control.

FilterBilateralGaussBorder

Filters the image using a bilateral Gaussian filter kernel with border control: If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

For this filter the anchor point is always the central element of the kernel. Coefficients of the bilateral filter kernel depend on their position in the kernel and on the value of some source image pixels overlayed by the filter kernel. Only source image pixels with both coordinates divisible by nDistanceBetweenSrcPixels are used in calculations.

The value of an output pixel d is

$$d = \frac{\sum_{h=-nRadius}^{nRadius} \sum_{w=-nRadius}^{nRadius} W1(h,w) \cdot W2(h,w) \cdot S(h,w)}{\sum_{h=-nRadius}^{nRadius} \sum_{w=-nRadius}^{nRadius} W1(h,w) \cdot W2(h,w)}$$

where h and w are the corresponding kernel width and height indexes, S(h,w) is the value of the source image pixel overlayed by filter kernel position (h,w), W1(h,w) is func(nValSquareSigma, (S(h,w) - S(0,0))) where S(0,0) is the value of the source image pixel at the center of the kernel, W2(h,w) is func(nPosSquareSigma, sqrt(h∗h+w∗w)), and func is the following formula

$$func(S,I) = exp(-\frac{I^2}{2.0F \cdot S^2})$$

Currently only the NPP_BORDER_REPLICATE border type operations are supported.

- NppStatus nppiFilterBilateralGaussBorder_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nRadius, const int nStepBetweenSrcPixels, const Npp32f nValSquareSigma, const Npp32f nPosSquareSigma, NppiBorderType eBorderType)

  Single channel 8-bit unsigned bilateral Gauss filter with border control.

- NppStatus nppiFilterBilateralGaussBorder_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nRadius, const int nStepBetweenSrcPixels, const Npp32f nValSquareSigma, const Npp32f nPosSquareSigma, NppiBorderType eBorderType)

  Three channel 8-bit unsigned bilateral Gauss filter with border control.

- NppStatus nppiFilterBilateralGaussBorder_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nRadius, const int nStepBetweenSrcPixels, const Npp32f nValSquareSigma, const Npp32f nPosSquareSigma, NppiBorderType eBorderType)

  Single channel 16-bit unsigned bilateral Gauss filter with border control.

- NppStatus nppiFilterBilateralGaussBorder_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nRadius, const int nStepBetweenSrcPixels, const Npp32f nValSquareSigma, const Npp32f nPosSquareSigma, NppiBorderType eBorderType)

  Three channel 16-bit unsigned bilateral Gauss filter with border control.

- NppStatus nppiFilterBilateralGaussBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nRadius, const int nStepBetweenSrcPixels, const Npp32f nValSquareSigma, const Npp32f nPosSquareSigma, NppiBorderType eBorderType)

  One channel 32-bit floating-point bilateral Gauss filter with border control.

- NppStatus nppiFilterBilateralGaussBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, const int nRadius, const int nStepBetweenSrcPixels, const Npp32f nValSquareSigma, const Npp32f nPosSquareSigma, NppiBorderType eBorderType)

  Three channel 32-bit floating-point bilateral Gauss filter with border control.

FilterHighPass

Filters the image using a high-pass filter kernel:

$$\begin{pmatrix} -1 & -1 & -1 \\ -1 & 8 & -1 \\ -1 & -1 & -1 \end{pmatrix} \begin{pmatrix} -1 & -1 & -1 & -1 & -1 \\ -1 & -1 & -1 & -1 & -1 \\ -1 & -1 & 24 & -1 & -1 \\ -1 & -1 & -1 & -1 & -1 \\ -1 & -1 & -1 & -1 & -1 \end{pmatrix}$$

- NppStatus nppiFilterHighPass_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 8-bit unsigned high-pass filter.

- NppStatus nppiFilterHighPass_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Three channel 8-bit unsigned high-pass filter.

- NppStatus nppiFilterHighPass_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 8-bit unsigned high-pass filter.

- NppStatus nppiFilterHighPass_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 8-bit unsigned high-pass filter, ignoring alpha channel.

- NppStatus nppiFilterHighPass_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 16-bit unsigned high-pass filter.

- NppStatus nppiFilterHighPass_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Three channel 16-bit unsigned high-pass filter.

- NppStatus nppiFilterHighPass_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 16-bit unsigned high-pass filter.

- NppStatus nppiFilterHighPass_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 16-bit unsigned high-pass filter, ignoring alpha channel.

- NppStatus nppiFilterHighPass_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 16-bit signed high-pass filter.

- NppStatus nppiFilterHighPass_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Three channel 16-bit signed high-pass filter.

- NppStatus nppiFilterHighPass_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 16-bit signed high-pass filter.

- NppStatus nppiFilterHighPass_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 16-bit signed high-pass filter, ignoring alpha channel.

- NppStatus nppiFilterHighPass_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 32-bit floating-point high-pass filter.

- NppStatus nppiFilterHighPass_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Three channel 32-bit floating-point high-pass filter.

- NppStatus nppiFilterHighPass_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 32-bit floating-point high-pass filter.

- NppStatus nppiFilterHighPass_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 32-bit floating-point high-pass filter, ignoring alpha channel.

FilterHighPassBorder

Filters the image using a high-pass filter kernel with border control.

If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported.

$$\begin{pmatrix} -1 & -1 & -1 \\ -1 & 8 & -1 \\ -1 & -1 & -1 \end{pmatrix} \begin{pmatrix} -1 & -1 & -1 & -1 & -1 \\ -1 & -1 & -1 & -1 & -1 \\ -1 & -1 & 24 & -1 & -1 \\ -1 & -1 & -1 & -1 & -1 \\ -1 & -1 & -1 & -1 & -1 \end{pmatrix}$$

- NppStatus nppiFilterHighPassBorder_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 8-bit unsigned high-pass filter.

- NppStatus nppiFilterHighPassBorder_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Three channel 8-bit unsigned high-pass filter.

- NppStatus nppiFilterHighPassBorder_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

Four channel 8-bit unsigned high-pass filter.

- NppStatus nppiFilterHighPassBorder_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 8-bit unsigned high-pass filter, ignoring alpha channel.

- NppStatus nppiFilterHighPassBorder_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 16-bit unsigned high-pass filter.

- NppStatus nppiFilterHighPassBorder_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Three channel 16-bit unsigned high-pass filter.

- NppStatus nppiFilterHighPassBorder_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 16-bit unsigned high-pass filter.

- NppStatus nppiFilterHighPassBorder_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 16-bit unsigned high-pass filter, ignoring alpha channel.

- NppStatus nppiFilterHighPassBorder_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 16-bit signed high-pass filter.

- NppStatus nppiFilterHighPassBorder_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Three channel 16-bit signed high-pass filter.

- NppStatus nppiFilterHighPassBorder_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 16-bit signed high-pass filter.

- NppStatus nppiFilterHighPassBorder_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 16-bit signed high-pass filter, ignoring alpha channel.

- NppStatus nppiFilterHighPassBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 32-bit floating-point high-pass filter.

- NppStatus nppiFilterHighPassBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Three channel 32-bit floating-point high-pass filter.

- NppStatus nppiFilterHighPassBorder_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 32-bit floating-point high-pass filter.

- NppStatus nppiFilterHighPassBorder_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 32-bit floating-point high-pass filter, ignoring alpha channel.

FilterLowPass

Filters the image using a low-pass filter kernel:

$$\begin{pmatrix} 1/9 & 1/9 & 1/9 \\ 1/9 & 1/9 & 1/9 \\ 1/9 & 1/9 & 1/9 \end{pmatrix} \begin{pmatrix} 1/25 & 1/25 & 1/25 & 1/25 & 1/25 \\ 1/25 & 1/25 & 1/25 & 1/25 & 1/25 \\ 1/25 & 1/25 & 1/25 & 1/25 & 1/25 \\ 1/25 & 1/25 & 1/25 & 1/25 & 1/25 \\ 1/25 & 1/25 & 1/25 & 1/25 & 1/25 \end{pmatrix}$$

- NppStatus nppiFilterLowPass_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 8-bit unsigned low-pass filter.

- NppStatus nppiFilterLowPass_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Three channel 8-bit unsigned low-pass filter.

- NppStatus nppiFilterLowPass_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 8-bit unsigned low-pass filter.

- NppStatus nppiFilterLowPass_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Four channel 8-bit unsigned low-pass filter, ignoring alpha channel.

- NppStatus nppiFilterLowPass_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Single channel 16-bit unsigned low-pass filter.

- NppStatus nppiFilterLowPass_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

  Three channel 16-bit unsigned low-pass filter.

- NppStatus nppiFilterLowPass_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

    Four channel 16-bit unsigned low-pass filter.

- NppStatus nppiFilterLowPass_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

    Four channel 16-bit unsigned low-pass filter, ignoring alpha channel.

- NppStatus nppiFilterLowPass_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

    Single channel 16-bit signed low-pass filter.

- NppStatus nppiFilterLowPass_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

    Three channel 16-bit signed low-pass filter.

- NppStatus nppiFilterLowPass_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

    Four channel 16-bit signed low-pass filter.

- NppStatus nppiFilterLowPass_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

    Four channel 16-bit signed low-pass filter, ignoring alpha channel.

- NppStatus nppiFilterLowPass_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

    Single channel 32-bit floating-point low-pass filter.

- NppStatus nppiFilterLowPass_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

    Three channel 32-bit floating-point low-pass filter.

- NppStatus nppiFilterLowPass_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

    Four channel 32-bit floating-point low-pass filter.

- NppStatus nppiFilterLowPass_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize)

    Four channel 32-bit floating-point high-pass filter, ignoring alpha channel.

FilterLowPassBorder

Filters the image using a low-pass filter kernel with border control.

If any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported.

$$\begin{pmatrix} 1/9 & 1/9 & 1/9 \\ 1/9 & 1/9 & 1/9 \\ 1/9 & 1/9 & 1/9 \end{pmatrix} \begin{pmatrix} 1/25 & 1/25 & 1/25 & 1/25 & 1/25 \\ 1/25 & 1/25 & 1/25 & 1/25 & 1/25 \\ 1/25 & 1/25 & 1/25 & 1/25 & 1/25 \\ 1/25 & 1/25 & 1/25 & 1/25 & 1/25 \\ 1/25 & 1/25 & 1/25 & 1/25 & 1/25 \end{pmatrix}$$

- NppStatus nppiFilterLowPassBorder_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 8-bit unsigned high-pass filter.

- NppStatus nppiFilterLowPassBorder_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Three channel 8-bit unsigned high-pass filter.

- NppStatus nppiFilterLowPassBorder_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 8-bit unsigned high-pass filter.

- NppStatus nppiFilterLowPassBorder_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 8-bit unsigned high-pass filter, ignoring alpha channel.

- NppStatus nppiFilterLowPassBorder_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 16-bit unsigned high-pass filter.

- NppStatus nppiFilterLowPassBorder_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Three channel 16-bit unsigned high-pass filter.

- NppStatus nppiFilterLowPassBorder_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 16-bit unsigned high-pass filter.

- NppStatus nppiFilterLowPassBorder_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 16-bit unsigned high-pass filter, ignoring alpha channel.

- NppStatus nppiFilterLowPassBorder_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 16-bit signed high-pass filter.

- NppStatus nppiFilterLowPassBorder_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Three channel 16-bit signed high-pass filter.

- NppStatus nppiFilterLowPassBorder_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 16-bit signed high-pass filter.

- NppStatus nppiFilterLowPassBorder_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 16-bit signed high-pass filter, ignoring alpha channel.

- NppStatus nppiFilterLowPassBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Single channel 32-bit floating-point high-pass filter.

- NppStatus nppiFilterLowPassBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Three channel 32-bit floating-point high-pass filter.

- NppStatus nppiFilterLowPassBorder_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 32-bit floating-point high-pass filter.

- NppStatus nppiFilterLowPassBorder_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiBorderType eBorderType)

  Four channel 32-bit floating-point high-pass filter, ignoring alpha channel.

FilterSharpen

Filters the image using a sharpening filter kernel:

$$\begin{pmatrix} -1/8 & -1/8 & -1/8 \\ -1/8 & 16/8 & -1/8 \\ -1/8 & -1/8 & -1/8 \end{pmatrix}$$

- NppStatus nppiFilterSharpen_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 8-bit unsigned sharpening filter.

- NppStatus nppiFilterSharpen_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

Three channel 8-bit unsigned sharpening filter.

- NppStatus nppiFilterSharpen_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 8-bit unsigned sharpening filter.

- NppStatus nppiFilterSharpen_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 8-bit unsigned sharpening filter, ignoring alpha channel.

- NppStatus nppiFilterSharpen_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 16-bit unsigned sharpening filter.

- NppStatus nppiFilterSharpen_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Three channel 16-bit unsigned sharpening filter.

- NppStatus nppiFilterSharpen_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 16-bit unsigned sharpening filter.

- NppStatus nppiFilterSharpen_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 16-bit unsigned sharpening filter, ignoring alpha channel.

- NppStatus nppiFilterSharpen_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 16-bit signed sharpening filter.

- NppStatus nppiFilterSharpen_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Three channel 16-bit signed sharpening filter.

- NppStatus nppiFilterSharpen_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 16-bit signed sharpening filter.

- NppStatus nppiFilterSharpen_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 16-bit signed sharpening filter, ignoring alpha channel.

- NppStatus nppiFilterSharpen_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Single channel 32-bit floating-point sharpening filter.

- NppStatus nppiFilterSharpen_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Three channel 32-bit floating-point sharpening filter.

- NppStatus nppiFilterSharpen_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 32-bit floating-point sharpening filter.

- NppStatus nppiFilterSharpen_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI)

  Four channel 32-bit floating-point sharpening filter, ignoring alpha channel.

FilterSharpenBorder

Filters the image using a sharpening filter kernel with border control.

If any portion of the 3x3 mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported.

$$\begin{pmatrix} -1/8 & -1/8 & -1/8 \\ -1/8 & 16/8 & -1/8 \\ -1/8 & -1/8 & -1/8 \end{pmatrix}$$

- NppStatus nppiFilterSharpenBorder_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 8-bit unsigned sharpening filter with border control.

- NppStatus nppiFilterSharpenBorder_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Three channel 8-bit unsigned sharpening filter with border control.

- NppStatus nppiFilterSharpenBorder_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 8-bit unsigned sharpening filter with border control.

- NppStatus nppiFilterSharpenBorder_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 8-bit unsigned sharpening filter with border control, ignoring alpha channel.

- NppStatus nppiFilterSharpenBorder_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 16-bit unsigned sharpening filter with border control.

- NppStatus nppiFilterSharpenBorder_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Three channel 16-bit unsigned sharpening filter with border control.

- NppStatus nppiFilterSharpenBorder_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 16-bit unsigned sharpening filter with border control.

- NppStatus nppiFilterSharpenBorder_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 16-bit unsigned sharpening filter with border control, ignoring alpha channel.

- NppStatus nppiFilterSharpenBorder_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 16-bit signed sharpening filter with border control.

- NppStatus nppiFilterSharpenBorder_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Three channel 16-bit signed sharpening filter with border control.

- NppStatus nppiFilterSharpenBorder_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 16-bit signed sharpening filter with border control.

- NppStatus nppiFilterSharpenBorder_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 16-bit signed sharpening filter with border control, ignoring alpha channel.

- NppStatus nppiFilterSharpenBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Single channel 32-bit floating-point sharpening filter with border control.

- NppStatus nppiFilterSharpenBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Three channel 32-bit floating-point sharpening filter with border control.

- NppStatus nppiFilterSharpenBorder_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 32-bit floating-point sharpening filter with border control.

- NppStatus nppiFilterSharpenBorder_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, NppiBorderType eBorderType)

  Four channel 32-bit floating-point sharpening filter with border control, ignoring alpha channel.

FilterUnsharpBorder

Filters the image using a unsharp-mask sharpening filter kernel with border control.

The algorithm involves the following steps: Smooth the original image with a Gaussian filter, with the width controlled by the nRadius. Subtract the smoothed image from the original to create a high-pass filtered image. Apply any clipping needed on the high-pass image, as controlled by the nThreshold. Add a certain percentage of the high-pass filtered image to the original image, with the percentage controlled by the nWeight. In pseudocode this algorithm can be written as: HighPass = Image - Gaussian(Image) Result = Image + nWeight ∗ HighPass ∗ (|HighPass| >= nThreshold) where nWeight is the amount, nThreshold is the threshold, and >= indicates a Boolean operation, 1 if true, or 0 otherwise.

If any portion of the mask overlaps the source image boundary, the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported.

- NppStatus nppiFilterUnsharpBorder_8u_C1R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRadius, Npp32f nSigma, Npp32f nWeight, Npp32f nThreshold, NppiBorderType eBorderType, Npp8u ∗pDeviceBuffer)

  Single channel 8-bit unsigned unsharp filter.

- NppStatus nppiFilterUnsharpBorder_8u_C3R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRadius, Npp32f nSigma, Npp32f nWeight, Npp32f nThreshold, NppiBorderType eBorderType, Npp8u ∗pDeviceBuffer)

  Three channel 8-bit unsigned unsharp filter.

- NppStatus nppiFilterUnsharpBorder_8u_C4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRadius, Npp32f nSigma, Npp32f nWeight, Npp32f nThreshold, NppiBorderType eBorderType, Npp8u ∗pDeviceBuffer)

  Four channel 8-bit unsigned unsharp filter.

- NppStatus nppiFilterUnsharpBorder_8u_AC4R (const Npp8u ∗pSrc, Npp32s nSrcStep, NppiPoint oSrcOffset, Npp8u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRadius, Npp32f nSigma, Npp32f nWeight, Npp32f nThreshold, NppiBorderType eBorderType, Npp8u ∗pDeviceBuffer)

  Four channel 8-bit unsigned unsharp filter (alpha channel is not processed).

- NppStatus nppiFilterUnsharpBorder_16u_C1R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRadius, Npp32f nSigma, Npp32f nWeight, Npp32f nThreshold, NppiBorderType eBorderType, Npp8u ∗pDeviceBuffer)

  Single channel 16-bit unsigned unsharp filter.

- NppStatus nppiFilterUnsharpBorder_16u_C3R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRadius, Npp32f nSigma, Npp32f nWeight, Npp32f nThreshold, NppiBorderType eBorderType, Npp8u ∗pDeviceBuffer)

  Three channel 16-bit unsigned unsharp filter.

- NppStatus nppiFilterUnsharpBorder_16u_C4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRadius, Npp32f nSigma, Npp32f nWeight, Npp32f nThreshold, NppiBorderType eBorderType, Npp8u ∗pDeviceBuffer)

  Four channel 16-bit unsigned unsharp filter.

- NppStatus nppiFilterUnsharpBorder_16u_AC4R (const Npp16u ∗pSrc, Npp32s nSrcStep, NppiPoint oSrcOffset, Npp16u ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRadius, Npp32f nSigma, Npp32f nWeight, Npp32f nThreshold, NppiBorderType eBorderType, Npp8u ∗pDeviceBuffer)

  Four channel 16-bit unsigned unsharp filter (alpha channel is not processed).

- NppStatus nppiFilterUnsharpBorder_16s_C1R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRadius, Npp32f nSigma, Npp32f nWeight, Npp32f nThreshold, NppiBorderType eBorderType, Npp8u ∗pDeviceBuffer)

  Single channel 16-bit signed unsharp filter.

- NppStatus nppiFilterUnsharpBorder_16s_C3R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRadius, Npp32f nSigma, Npp32f nWeight, Npp32f nThreshold, NppiBorderType eBorderType, Npp8u ∗pDeviceBuffer)

  Three channel 16-bit signed unsharp filter.

- NppStatus nppiFilterUnsharpBorder_16s_C4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRadius, Npp32f nSigma, Npp32f nWeight, Npp32f nThreshold, NppiBorderType eBorderType, Npp8u ∗pDeviceBuffer)

  Four channel 16-bit signed unsharp filter.

- NppStatus nppiFilterUnsharpBorder_16s_AC4R (const Npp16s ∗pSrc, Npp32s nSrcStep, NppiPoint oSrcOffset, Npp16s ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRadius, Npp32f nSigma, Npp32f nWeight, Npp32f nThreshold, NppiBorderType eBorderType, Npp8u ∗pDeviceBuffer)

  Four channel 16-bit signed unsharp filter (alpha channel is not processed).

- NppStatus nppiFilterUnsharpBorder_32f_C1R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRadius, Npp32f nSigma, Npp32f nWeight, Npp32f nThreshold, NppiBorderType eBorderType, Npp8u ∗pDeviceBuffer)

  Single channel 32-bit floating point unsharp filter.

- NppStatus nppiFilterUnsharpBorder_32f_C3R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRadius, Npp32f nSigma, Npp32f nWeight, Npp32f nThreshold, NppiBorderType eBorderType, Npp8u ∗pDeviceBuffer)

  Three channel 32-bit floating point unsharp filter.

- NppStatus nppiFilterUnsharpBorder_32f_C4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRadius, Npp32f nSigma, Npp32f nWeight, Npp32f nThreshold, NppiBorderType eBorderType, Npp8u ∗pDeviceBuffer)

  Four channel 32-bit floating point unsharp filter.

- NppStatus nppiFilterUnsharpBorder_32f_AC4R (const Npp32f ∗pSrc, Npp32s nSrcStep, NppiPoint oSrcOffset, Npp32f ∗pDst, Npp32s nDstStep, NppiSize oSizeROI, Npp32f nRadius, Npp32f nSigma, Npp32f nWeight, Npp32f nThreshold, NppiBorderType eBorderType, Npp8u ∗pDeviceBuffer)

Four channel 32-bit floating point unsharp filter (alpha channel is not processed).

- NppStatus nppiFilterUnsharpGetBufferSize_8u_C1R (const Npp32f nRadius, const Npp32f nSigma, int ∗hpBufferSize)

  Single channel 8-bit unsigned unsharp filter scratch memory size.

- NppStatus nppiFilterUnsharpGetBufferSize_8u_C3R (const Npp32f nRadius, const Npp32f nSigma, int ∗hpBufferSize)

  Three channel 8-bit unsigned unsharp filter scratch memory size.

- NppStatus nppiFilterUnsharpGetBufferSize_8u_C4R (const Npp32f nRadius, const Npp32f nSigma, int ∗hpBufferSize)

  Four channel 8-bit unsigned unsharp filter scratch memory size.

- NppStatus nppiFilterUnsharpGetBufferSize_8u_AC4R (const Npp32f nRadius, const Npp32f nSigma, int ∗hpBufferSize)

  Four channel 8-bit unsigned unsharp filter scratch memory size (alpha channel is not processed).

- NppStatus nppiFilterUnsharpGetBufferSize_16u_C1R (const Npp32f nRadius, const Npp32f nSigma, int ∗hpBufferSize)

  Single channel 16-bit unsigned unsharp filter scratch memory size.

- NppStatus nppiFilterUnsharpGetBufferSize_16u_C3R (const Npp32f nRadius, const Npp32f nSigma, int ∗hpBufferSize)

  Three channel 16-bit unsigned unsharp filter scratch memory size.

- NppStatus nppiFilterUnsharpGetBufferSize_16u_C4R (const Npp32f nRadius, const Npp32f nSigma, int ∗hpBufferSize)

  Four channel 16-bit unsigned unsharp filter scratch memory size.

- NppStatus nppiFilterUnsharpGetBufferSize_16u_AC4R (const Npp32f nRadius, const Npp32f nSigma, int ∗hpBufferSize)

  Four channel 16-bit unsigned unsharp filter scratch memory size (alpha channel is not processed).

- NppStatus nppiFilterUnsharpGetBufferSize_16s_C1R (const Npp32f nRadius, const Npp32f nSigma, int ∗hpBufferSize)

  Single channel 16-bit signed unsharp filter scratch memory size.

- NppStatus nppiFilterUnsharpGetBufferSize_16s_C3R (const Npp32f nRadius, const Npp32f nSigma, int ∗hpBufferSize)

  Three channel 16-bit signed unsharp filter scratch memory size.

- NppStatus nppiFilterUnsharpGetBufferSize_16s_C4R (const Npp32f nRadius, const Npp32f nSigma, int ∗hpBufferSize)

  Four channel 16-bit signed unsharp filter scratch memory size.

- NppStatus nppiFilterUnsharpGetBufferSize_16s_AC4R (const Npp32f nRadius, const Npp32f nSigma, int ∗hpBufferSize)

  Four channel 16-bit signed unsharp filter scratch memory size (alpha channel is not processed).

- NppStatus nppiFilterUnsharpGetBufferSize_32f_C1R (const Npp32f nRadius, const Npp32f nSigma, int ∗hpBufferSize)

  Single channel 32-bit floating point unsharp filter scratch memory size.

- NppStatus nppiFilterUnsharpGetBufferSize_32f_C3R (const Npp32f nRadius, const Npp32f nSigma, int ∗hpBufferSize)

  Three channel 32-bit floating point unsharp filter scratch memory size.

- NppStatus nppiFilterUnsharpGetBufferSize_32f_C4R (const Npp32f nRadius, const Npp32f nSigma, int ∗hpBufferSize)

  Four channel 32-bit floating point unsharp filter scratch memory size.

- NppStatus nppiFilterUnsharpGetBufferSize_32f_AC4R (const Npp32f nRadius, const Npp32f nSigma, int ∗hpBufferSize)

  Four channel 32-bit floating point unsharp filter scratch memory size (alpha channel is not processed).

GradientVectorPrewittBorder

RGB Color to Prewitt Gradient Vector conversion using user selected fixed mask size and gradient distance method.

Functions support up to 4 optional single channel output gradient vectors, X (vertical), Y (horizontal), magnitude, and angle with user selectable distance methods. Output for a particular vector is disabled by supplying a NULL pointer for that vector. X and Y gradient vectors are in cartesian form in the destination data type. Magnitude vectors are polar gradient form in the destination data type, angle is always in floating point polar gradient format. Only fixed mask sizes of 3x3 are supported. Only nppiNormL1 (sum) and nppiNormL2 (sqrt of sum of squares) distance methods are currently supported.

Currently only the NPP_BORDER_REPLICATE border type operation is supported. Borderless output can be accomplished by using a larger source image than the destination and adjusting oSrcSize and oSrcOffset parameters accordingly.

The following fixed kernel mask is used for producing the pDstX (vertical) output image.

$$\begin{pmatrix} -1 & 0 & 1 \\ -1 & 0 & 1 \\ -1 & 0 & 1 \end{pmatrix}$$

The following fixed kernel mask is used for producing the pDstY (horizontal) output image.

$$\begin{pmatrix} 1 & 1 & 1 \\ 0 & 0 & 0 \\ -1 & -1 & -1 \end{pmatrix}$$

For the C1R versions of the function the pDstMag output image value for L1 normalization consists of the absolute value of the pDstX value plus the absolute value of the pDstY value at that particular image pixel location. For the C1R versions of the function the pDstMag output image value for L2 normalization consists of the square root of the pDstX value squared plus the pDstY value squared at that particular image pixel location. For the C1R versions of the function the pDstAngle output image value consists of the arctangent (atan2) of the pDstY value and the pDstX value at that particular image pixel location.

For the C3C1R versions of the function, regardless of the selected normalization method, the L2 normalization value is first determined for each or the pDstX and pDstY values for each source channel then the largest L2 normalization value (largest gradient) is used to select which of the 3 pDstX channel values are output to the pDstX image or pDstY channel values are output to the pDstY image. For the C3C1R versions of the function the pDstMag output image value for L1 normalizaton consists of the same technique used for the C1R version for each source image channel. Then the largest L2 normalization value is again used to select which of the 3 pDstMag channel values to output to the pDstMag image. For the C3C1R versions of the function the pDstMag output image value for L2 normalizaton consists of just outputting the largest per source channel L2 normalization value to the pDstMag image. For the C3C1R versions of the function the pDstAngle output image value consists of the same technique used for the C1R version calculated for each source image channel. Then the largest L2 normalization value is again used to select which of the 3 angle values to output to the pDstAngle image.

- NppStatus nppiGradientVectorPrewittBorder_8u16s_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDstX, int nDstXStep, Npp16s ∗pDstY, int nDstYStep, Npp16s ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  1 channel 8-bit unsigned packed RGB to optional 1 channel 16-bit signed X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

- NppStatus nppiGradientVectorPrewittBorder_8u16s_C3C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDstX, int nDstXStep, Npp16s ∗pDstY, int nDstYStep, Npp16s ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  3 channel 8-bit unsigned packed RGB to optional 1 channel 16-bit signed X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

- NppStatus nppiGradientVectorPrewittBorder_16s32f_C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDstX, int nDstXStep, Npp32f ∗pDstY, int nDstYStep, Npp32f ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  1 channel 16-bit signed packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

- NppStatus nppiGradientVectorPrewittBorder_16s32f_C3C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDstX, int nDstXStep, Npp32f ∗pDstY, int nDstYStep, Npp32f ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  3 channel 16-bit signed packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

- NppStatus nppiGradientVectorPrewittBorder_16u32f_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDstX, int nDstXStep, Npp32f ∗pDstY, int nDstYStep, Npp32f ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  1 channel 16-bit unsigned packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

- NppStatus nppiGradientVectorPrewittBorder_16u32f_C3C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDstX, int nDstXStep, Npp32f ∗pDstY, int nDstYStep, Npp32f ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

> *3 channel 16-bit unsigned packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.*

- NppStatus nppiGradientVectorPrewittBorder_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDstX, int nDstXStep, Npp32f ∗pDstY, int nDstYStep, Npp32f ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  > *1 channel 32-bit floating point packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.*

- NppStatus nppiGradientVectorPrewittBorder_32f_C3C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDstX, int nDstXStep, Npp32f ∗pDstY, int nDstYStep, Npp32f ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  > *3 channel 32-bit floating point packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.*

GradientVectorScharrBorder

RGB Color to Scharr Gradient Vector conversion using user selected fixed mask size and gradient distance method.

Functions support up to 4 optional single channel output gradient vectors, X (vertical), Y (horizontal), magnitude, and angle with user selectable distance methods. Output for a particular vector is disabled by supplying a NULL pointer for that vector. X and Y gradient vectors are in cartesian form in the destination data type. Magnitude vectors are polar gradient form in the destination data type, angle is always in floating point polar gradient format. Only fixed mask sizes of 3x3 are supported. Only nppiNormL1 (sum) and nppiNormL2 (sqrt of sum of squares) distance methods are currently supported.

Currently only the NPP_BORDER_REPLICATE border type operation is supported. Borderless output can be accomplished by using a larger source image than the destination and adjusting oSrcSize and oSrcOffset parameters accordingly.

The following fixed kernel mask is used for producing the pDstX (vertical) output image.

$$\begin{pmatrix} 3 & 0 & -3 \\ 10 & 0 & -10 \\ 3 & 0 & -3 \end{pmatrix}$$

The following fixed kernel mask is used for producing the pDstY (horizontal) output image.

$$\begin{pmatrix} 3 & 10 & 3 \\ 0 & 0 & 0 \\ -3 & -10 & -3 \end{pmatrix}$$

For the C1R versions of the function the pDstMag output image value for L1 normalization consists of the absolute value of the pDstX value plus the absolute value of the pDstY value at that particular image pixel location. For the C1R versions of the function the pDstMag output image value for L2 normalization consists of the square root of the pDstX value squared plus the pDstY value squared at that particular image pixel location. For the C1R versions of the function the pDstAngle output image value consists of the arctangent (atan2) of the pDstY value and the pDstX value at that particular image pixel location.

For the C3C1R versions of the function, regardless of the selected normalization method, the L2 normalization value is first determined for each or the pDstX and pDstY values for each source channel then the largest L2 normalization value (largest gradient) is used to select which of the 3 pDstX channel values are output to the pDstX image or pDstY channel values are output to the pDstY image. For the C3C1R versions of the function the pDstMag output image value for L1 normalizaton consists of the same technique used for the C1R version for each source image channel. Then the largest L2 normalization value is again used to select which of the 3 pDstMag channel values to output to the pDstMag image. For the C3C1R versions of the function the pDstMag output image value for L2 normalizaton consists of just outputting the largest per source channel L2 normalization value to the pDstMag image. For the C3C1R versions of the function the pDstAngle output image value consists of the same technique used for the C1R version calculated for each source image channel. Then the largest L2 normalization value is again used to select which of the 3 angle values to output to the pDstAngle image.

- NppStatus nppiGradientVectorScharrBorder_8u16s_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDstX, int nDstXStep, Npp16s ∗pDstY, int nDstYStep, Npp16s ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  1 channel 8-bit unsigned packed RGB to optional 1 channel 16-bit signed X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

- NppStatus nppiGradientVectorScharrBorder_8u16s_C3C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDstX, int nDstXStep, Npp16s ∗pDstY, int nDstYStep, Npp16s ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  3 channel 8-bit unsigned packed RGB to optional 1 channel 16-bit signed X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

- NppStatus nppiGradientVectorScharrBorder_16s32f_C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDstX, int nDstXStep, Npp32f ∗pDstY, int nDstYStep, Npp32f ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  1 channel 16-bit signed packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

- NppStatus nppiGradientVectorScharrBorder_16s32f_C3C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDstX, int nDstXStep, Npp32f ∗pDstY, int nDstYStep, Npp32f ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  3 channel 16-bit signed packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

- NppStatus nppiGradientVectorScharrBorder_16u32f_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDstX, int nDstXStep, Npp32f ∗pDstY, int nDstYStep, Npp32f ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

1 channel 16-bit unsigned packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

- NppStatus nppiGradientVectorScharrBorder_16u32f_C3C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDstX, int nDstXStep, Npp32f ∗pDstY, int nDstYStep, Npp32f ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  3 channel 16-bit unsigned packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

- NppStatus nppiGradientVectorScharrBorder_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDstX, int nDstXStep, Npp32f ∗pDstY, int nDstYStep, Npp32f ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  1 channel 32-bit floating point packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

- NppStatus nppiGradientVectorScharrBorder_32f_C3C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDstX, int nDstXStep, Npp32f ∗pDstY, int nDstYStep, Npp32f ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  3 channel 32-bit floating point packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

GradientVectorSobelBorder

RGB Color to Sobel Gradient Vector conversion using user selected fixed mask size and gradient distance method.

Functions support up to 4 optional single channel output gradient vectors, X (vertical), Y (horizontal), magnitude, and angle with user selectable distance methods. Output for a particular vector is disabled by supplying a NULL pointer for that vector. X and Y gradient vectors are in cartesian form in the destination data type. Magnitude vectors are polar gradient form in the destination data type, angle is always in floating point polar gradient format. Only fixed mask sizes of 3x3 and 5x5 are supported. Only nppiNormL1 (sum) and nppiNormL2 (sqrt of sum of squares) distance methods are currently supported.

Currently only the NPP_BORDER_REPLICATE border type operation is supported. Borderless output can be accomplished by using a larger source image than the destination and adjusting oSrcSize and oSrcOffset parameters accordingly.

One of the following fixed kernel masks are used for producing the 3x3 or 5x5 pDstX (vertical) output image depending on selected mask size.

$$\begin{pmatrix} -1 & 0 & 1 \\ -2 & 0 & 2 \\ -1 & 0 & 1 \end{pmatrix}$$

$$\begin{pmatrix} -1 & -2 & 0 & 2 & 1 \\ -4 & -8 & 0 & 8 & 4 \\ -6 & -12 & 0 & 12 & 6 \\ -4 & -8 & 0 & 8 & 4 \\ -1 & -2 & 0 & 2 & 1 \end{pmatrix}$$

One of the following fixed kernel masks are used for producing the 3x3 or 5x5 pDstY (horizontal) output image depending on selected mask size.

$$\begin{pmatrix} 1 & 2 & 1 \\ 0 & 0 & 0 \\ -1 & -2 & -1 \end{pmatrix}$$

$$\begin{pmatrix} 1 & 4 & 6 & 4 & 1 \\ 2 & 8 & 12 & 8 & 2 \\ 0 & 0 & 0 & 0 & 0 \\ -2 & -8 & -12 & -8 & -2 \\ -1 & -4 & -6 & -4 & -1 \end{pmatrix}$$

For the C1R versions of the function the pDstMag output image value for L1 normalization consists of the absolute value of the pDstX value plus the absolute value of the pDstY value at that particular image pixel location. For the C1R versions of the function the pDstMag output image value for L2 normalization consists of the square root of the pDstX value squared plus the pDstY value squared at that particular image pixel location. For the C1R versions of the function the pDstAngle output image value consists of the arctangent (atan2) of the pDstY value and the pDstX value at that particular image pixel location.

For the C3C1R versions of the function, regardless of the selected normalization method, the L2 normalization value is first determined for each or the pDstX and pDstY values for each source channel then the largest L2 normalization value (largest gradient) is used to select which of the 3 pDstX channel values are output to the pDstX image or pDstY channel values are output to the pDstY image. For the C3C1R versions of the function the pDstMag output image value for L1 normalizaton consists of the same technique used for the C1R version for each source image channel. Then the largest L2 normalization value is again used to select which of the 3 pDstMag channel values to output to the pDstMag image. For the C3C1R versions of the function the pDstMag output image value for L2 normalizaton consists of just outputting the largest per source channel L2 normalization value to the pDstMag image. For the C3C1R versions of the function the pDstAngle output image value consists of the same technique used for the C1R version calculated for each source image channel. Then the largest L2 normalization value is again used to select which of the 3 angle values to output to the pDstAngle image.

- NppStatus nppiGradientVectorSobelBorder_8u16s_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDstX, int nDstXStep, Npp16s ∗pDstY, int nDstYStep, Npp16s ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  1 channel 8-bit unsigned packed RGB to optional 1 channel 16-bit signed X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

- NppStatus nppiGradientVectorSobelBorder_8u16s_C3C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp16s ∗pDstX, int nDstXStep, Npp16s ∗pDstY, int nDstYStep, Npp16s ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

3 channel 8-bit unsigned packed RGB to optional 1 channel 16-bit signed X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

- NppStatus nppiGradientVectorSobelBorder_16s32f_C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDstX, int nDstXStep, Npp32f ∗pDstY, int nDstYStep, Npp32f ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  1 channel 16-bit signed packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

- NppStatus nppiGradientVectorSobelBorder_16s32f_C3C1R (const Npp16s ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDstX, int nDstXStep, Npp32f ∗pDstY, int nDstYStep, Npp32f ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  3 channel 16-bit signed packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

- NppStatus nppiGradientVectorSobelBorder_16u32f_C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDstX, int nDstXStep, Npp32f ∗pDstY, int nDstYStep, Npp32f ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  1 channel 16-bit unsigned packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

- NppStatus nppiGradientVectorSobelBorder_16u32f_C3C1R (const Npp16u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDstX, int nDstXStep, Npp32f ∗pDstY, int nDstYStep, Npp32f ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  3 channel 16-bit unsigned packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

- NppStatus nppiGradientVectorSobelBorder_32f_C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDstX, int nDstXStep, Npp32f ∗pDstY, int nDstYStep, Npp32f ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  1 channel 32-bit floating point packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

- NppStatus nppiGradientVectorSobelBorder_32f_C3C1R (const Npp32f ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDstX, int nDstXStep, Npp32f ∗pDstY, int nDstYStep, Npp32f ∗pDstMag, int nDstMagStep, Npp32f ∗pDstAngle, int nDstAngleStep, NppiSize oSizeROI, NppiMaskSize eMaskSize, NppiNorm eNorm, NppiBorderType eBorderType)

  3 channel 32-bit floating point packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

FilterCannyBorder

Performs Canny edge detection on a single channel 8-bit grayscale image and outputs a single channel 8-bit image consisting of 0x00 and 0xFF values with 0xFF representing edge pixels.

The algorithm consists of three phases. The first phase generates two output images consisting of a single channel 16-bit signed image containing magnitude values and a single channel 32-bit floating point image containing the angular direction of those magnitude values. This phase is accomplished by calling the appropriate GradientVectorBorder filter function based on the filter type, filter mask size, and norm type requested. The next phase uses those magnitude and direction images to suppress non-maximum magnitude values which are lower than the values of either of its two nearest neighbors in the same direction as the test magnitude pixel in the 3x3 surrounding magnitude pixel neighborhood. This phase outputs a new magnitude image with non-maximum pixel values suppressed. Finally, in the third phase, the new magnitude image is passed through a hysteresis threshold filter that filters out any magnitude values that are not connected to another edge magnitude value. In this phase, any magnitude value above the high threshold value is automatically accepted, any magnitude value below the low threshold value is automatically rejected. For magnitude values that lie between the low and high threshold, values are only accepted if one of their two neighbors in the same direction in the 3x3 neighborhood around them lies above the low threshold value. In other words, if they are connected to an active edge. J. Canny recommends that the ratio of high to low threshold limit be in the range two or three to one, based on predicted signal-to-noise ratios. The final output of the third phase consists of a single channel 8-bit unsigned image of 0x00 and 0xFF values based on whether they are accepted or rejected during threshold testing.

Currently only the NPP_BORDER_REPLICATE border type operation is supported. Borderless output can be accomplished by using a larger source image than the destination and adjusting oSrcSize and oSrcOffset parameters accordingly.

- NppStatus nppiFilterCannyBorderGetBufferSize (NppiSize oSizeROI, int ∗hpBufferSize)

  Calculate scratch buffer size needed for the FilterCannyBorder function based on destination image SizeROI width and height.

- NppStatus nppiFilterCannyBorder_8u_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp8u ∗pDst, int nDstStep, NppiSize oSizeROI, NppiDifferentialKernel eFilterType, NppiMaskSize eMaskSize, Npp16s nLowThreshold, Npp16s nHighThreshold, NppiNorm eNorm, NppiBorderType eBorderType, Npp8u ∗pDeviceBuffer)

  1 channel 8-bit unsigned grayscale to 1 channel 8-bit unsigned black (0x00) and white (0xFF) image with border control.

FilterHarrisCornersBorder

Performs Harris Corner detection on a single channel 8-bit grayscale image and outputs a single channel 32-bit floating point image consisting the corner response at each pixel of the image.

The algorithm consists of two phases. The first phase generates the floating point product of XX, YY, and XY gradients at each pixel in the image. The type of gradient used is controlled by the eFilterType and eMaskSize parameters. The second phase averages those products over a window of either 3x3 or 5x5 pixels around the center pixel then generates the Harris corner response at that pixel which is output in the destination image. The Harris response value is determined as H = ((XX ∗ YY - XY ∗ XY) - (nK ∗ ((XX + YY) ∗ (XX + YY)))) ∗ nScale.

Currently only the NPP_BORDER_REPLICATE border type operation is supported. Borderless output can be accomplished by using a larger source image than the destination and adjusting oSrcSize and oSrcOffset parameters accordingly.

- NppStatus nppiFilterHarrisCornersBorderGetBufferSize (NppiSize oSizeROI, int ∗hpBufferSize)

  Calculate scratch buffer size needed for the FilterHarrisCornersBorder function based on destination image SizeROI width and height.

- NppStatus nppiFilterHarrisCornersBorder_8u32f_C1R (const Npp8u ∗pSrc, int nSrcStep, NppiSize oSrcSize, NppiPoint oSrcOffset, Npp32f ∗pDst, int nDstStep, NppiSize oSizeROI, NppiDifferentialKernel eFilterType, NppiMaskSize eMaskSize, NppiMaskSize eAvgWindowSize, Npp32f nK, Npp32f nScale, NppiBorderType eBorderType, Npp8u ∗pDeviceBuffer)

  1 channel 8-bit unsigned grayscale to 1 channel 32-bit floating point Harris corners response image with border control.

7.11.1 Detailed Description

Fixed filters perform linear filtering operations (such as convolutions) with predefined kernels of fixed sizes.

Note that this section also contains a few dynamic kernel filters, namely GaussAdvanced and Bilateral.

Some of the fixed filters have versions with border control. For these functions, if any portion of the mask overlaps the source image boundary the requested border type operation is applied to all mask pixels which fall outside of the source image.

Currently only the NPP_BORDER_REPLICATE border type operation is supported for these functions.

7.11.2 Function Documentation

7.11.2.1 NppStatus nppiFilterBilateralGaussBorder_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nRadius*, const int *nStepBetweenSrcPixels*, const Npp32f *nValSquareSigma*, const Npp32f *nPosSquareSigma*, NppiBorderType *eBorderType*)

Single channel 16-bit unsigned bilateral Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRadius The radius of the round filter kernel to be used. A radius of 1 indicates a filter kernel size of 3 by 3, 2 indicates 5 by 5, etc. Radius values from 1 to 32 are supported.

nStepBetweenSrcPixels The step size between adjacent source image pixels processed by the filter kernel, most commonly 1.

nValSquareSigma The square of the sigma for the relative intensity distance between a source image pixel in the filter kernel and the source image pixel at the center of the filter kernel.

nPosSquareSigma The square of the sigma for the relative geometric distance between a source image pixel in the filter kernel and the source image pixel at the center of the filter kernel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.2 NppStatus nppiFilterBilateralGaussBorder_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nRadius*, const int *nStepBetweenSrcPixels*, const Npp32f *nValSquareSigma*, const Npp32f *nPosSquareSigma*, NppiBorderType *eBorderType*)

Three channel 16-bit unsigned bilateral Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRadius The radius of the round filter kernel to be used. A radius of 1 indicates a filter kernel size of 3 by 3, 2 indicates 5 by 5, etc. Radius values from 1 to 32 are supported.

nStepBetweenSrcPixels The step size between adjacent source image pixels processed by the filter kernel, most commonly 1.

nValSquareSigma The square of the sigma for the relative intensity distance between a source image pixel in the filter kernel and the source image pixel at the center of the filter kernel.

nPosSquareSigma The square of the sigma for the relative geometric distance between a source image pixel in the filter kernel and the source image pixel at the center of the filter kernel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.3 NppStatus nppiFilterBilateralGaussBorder_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nRadius*, const int *nStepBetweenSrcPixels*, const Npp32f *nValSquareSigma*, const Npp32f *nPosSquareSigma*, NppiBorderType *eBorderType*)

One channel 32-bit floating-point bilateral Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRadius The radius of the round filter kernel to be used. A radius of 1 indicates a filter kernel size of 3 by 3, 2 indicates 5 by 5, etc. Radius values from 1 to 32 are supported.

nStepBetweenSrcPixels The step size between adjacent source image pixels processed by the filter kernel, most commonly 1.

nValSquareSigma The square of the sigma for the relative intensity distance between a source image pixel in the filter kernel and the source image pixel at the center of the filter kernel.

nPosSquareSigma The square of the sigma for the relative geometric distance between a source image pixel in the filter kernel and the source image pixel at the center of the filter kernel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.4 NppStatus nppiFilterBilateralGaussBorder_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nRadius*, const int *nStepBetweenSrcPixels*, const Npp32f *nValSquareSigma*, const Npp32f *nPosSquareSigma*, NppiBorderType *eBorderType*)

Three channel 32-bit floating-point bilateral Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRadius The radius of the round filter kernel to be used. A radius of 1 indicates a filter kernel size of 3 by 3, 2 indicates 5 by 5, etc. Radius values from 1 to 32 are supported.

nStepBetweenSrcPixels The step size between adjacent source image pixels processed by the filter kernel, most commonly 1.

nValSquareSigma The square of the sigma for the relative intensity distance between a source image pixel in the filter kernel and the source image pixel at the center of the filter kernel.

nPosSquareSigma The square of the sigma for the relative geometric distance between a source image pixel in the filter kernel and the source image pixel at the center of the filter kernel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.5 NppStatus nppiFilterBilateralGaussBorder_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nRadius*, const int *nStepBetweenSrcPixels*, const Npp32f *nValSquareSigma*, const Npp32f *nPosSquareSigma*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned bilateral Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRadius The radius of the round filter kernel to be used. A radius of 1 indicates a filter kernel size of 3 by 3, 2 indicates 5 by 5, etc. Radius values from 1 to 32 are supported.

nStepBetweenSrcPixels The step size between adjacent source image pixels processed by the filter kernel, most commonly 1.

nValSquareSigma The square of the sigma for the relative intensity distance between a source image pixel in the filter kernel and the source image pixel at the center of the filter kernel.

nPosSquareSigma The square of the sigma for the relative geometric distance between a source image pixel in the filter kernel and the source image pixel at the center of the filter kernel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.6 NppStatus nppiFilterBilateralGaussBorder_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nRadius*, const int *nStepBetweenSrcPixels*, const Npp32f *nValSquareSigma*, const Npp32f *nPosSquareSigma*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned bilateral Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRadius The radius of the round filter kernel to be used. A radius of 1 indicates a filter kernel size of 3 by 3, 2 indicates 5 by 5, etc. Radius values from 1 to 32 are supported.

nStepBetweenSrcPixels The step size between adjacent source image pixels processed by the filter kernel, most commonly 1.

nValSquareSigma The square of the sigma for the relative intensity distance between a source image pixel in the filter kernel and the source image pixel at the center of the filter kernel.

nPosSquareSigma The square of the sigma for the relative geometric distance between a source image pixel in the filter kernel and the source image pixel at the center of the filter kernel.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.7 NppStatus nppiFilterCannyBorder_8u_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, NppiDifferentialKernel *eFilterType*, NppiMaskSize *eMaskSize*, Npp16s *nLowThreshold*, Npp16s *nHighThreshold*, NppiNorm *eNorm*, NppiBorderType *eBorderType*, Npp8u ∗ *pDeviceBuffer*)

1 channel 8-bit unsigned grayscale to 1 channel 8-bit unsigned black (0x00) and white (0xFF) image with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst output edge destination_image_pointer.

nDstStep output edge destination_image_line_step.

oSizeROI Region-of-Interest (ROI).

eFilterType selects between Sobel or Scharr filter type.

eMaskSize fixed filter mask size to use.

nLowThreshold low hysteresis threshold value.

nHighThreshold high hysteresis threshold value.

eNorm gradient distance method to use.

eBorderType source image border type to use use.

pDeviceBuffer pointer to scratch DEVICE memory buffer of size hpBufferSize (see nppiFilterCannyBorderGetBufferSize() above)

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.8 NppStatus nppiFilterCannyBorderGetBufferSize (NppiSize *oSizeROI*, int ∗ *hpBufferSize*)

Calculate scratch buffer size needed for the FilterCannyBorder function based on destination image SizeROI width and height.

Parameters:

oSizeROI Region-of-Interest (ROI).

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

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.9 NppStatus nppiFilterGauss_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 16-bit signed Gauss filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.10 NppStatus nppiFilterGauss_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 16-bit signed Gauss filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.11 NppStatus nppiFilterGauss_16s_C3R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Three channel 16-bit signed Gauss filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.12 NppStatus nppiFilterGauss_16s_C4R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 16-bit signed Gauss filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.13 NppStatus nppiFilterGauss_16u_AC4R (const Npp16u $*$ *pSrc*, Npp32s *nSrcStep*, Npp16u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 16-bit unsigned Gauss filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.14 NppStatus nppiFilterGauss_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 16-bit unsigned Gauss filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.15 NppStatus nppiFilterGauss_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Three channel 16-bit unsigned Gauss filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.16 NppStatus nppiFilterGauss_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 16-bit unsigned Gauss filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.17 NppStatus nppiFilterGauss_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 32-bit floating-point Gauss filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.18 NppStatus nppiFilterGauss_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 32-bit floating-point Gauss filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.19 NppStatus nppiFilterGauss_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Three channel 32-bit floating-point Gauss filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.20 NppStatus nppiFilterGauss_32f_C4R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 32-bit floating-point Gauss filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.21 NppStatus nppiFilterGauss_8u_AC4R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 8-bit unsigned Gauss filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.22 NppStatus nppiFilterGauss_8u_C1R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 8-bit unsigned Gauss filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.23 NppStatus nppiFilterGauss_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Three channel 8-bit unsigned Gauss filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.24 NppStatus nppiFilterGauss_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 8-bit unsigned Gauss filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.25 NppStatus nppiFilterGaussAdvanced_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*)

Four channel 16-bit signed Gauss filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.26 NppStatus nppiFilterGaussAdvanced_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*)

Single channel 16-bit signed Gauss filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.27 NppStatus nppiFilterGaussAdvanced_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*)

Three channel 16-bit signed Gauss filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.28 NppStatus nppiFilterGaussAdvanced_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*)

Four channel 16-bit signed Gauss filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.29 NppStatus nppiFilterGaussAdvanced_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*)

Four channel 16-bit unsigned Gauss filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.30 NppStatus nppiFilterGaussAdvanced_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*)

Single channel 16-bit unsigned Gauss filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.31 NppStatus nppiFilterGaussAdvanced_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*)

Three channel 16-bit unsigned Gauss filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.32 NppStatus nppiFilterGaussAdvanced_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*)

Four channel 16-bit unsigned Gauss filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.33 NppStatus nppiFilterGaussAdvanced_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*)

Four channel 32-bit floating-point Gauss filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.34 NppStatus nppiFilterGaussAdvanced_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*)

Single channel 32-bit floating-point Gauss filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.35 NppStatus nppiFilterGaussAdvanced_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*)

Three channel 32-bit floating-point Gauss filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.36 NppStatus nppiFilterGaussAdvanced_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*)

Four channel 32-bit floating-point Gauss filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.37 NppStatus nppiFilterGaussAdvanced_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*)

Four channel 8-bit unsigned Gauss filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.38 NppStatus nppiFilterGaussAdvanced_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*)

Single channel 8-bit unsigned Gauss filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.39 NppStatus nppiFilterGaussAdvanced_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*)

Three channel 8-bit unsigned Gauss filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.40 NppStatus nppiFilterGaussAdvanced_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*)

Four channel 8-bit unsigned Gauss filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.41 NppStatus nppiFilterGaussAdvancedBorder_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Four channel 16-bit signed Gauss filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.42 NppStatus nppiFilterGaussAdvancedBorder_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Single channel 16-bit signed Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.43 NppStatus nppiFilterGaussAdvancedBorder_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Three channel 16-bit signed Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.44 NppStatus nppiFilterGaussAdvancedBorder_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Four channel 16-bit signed Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.45 NppStatus nppiFilterGaussAdvancedBorder_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned Gauss filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.46 NppStatus nppiFilterGaussAdvancedBorder_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Single channel 16-bit unsigned Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.47 NppStatus nppiFilterGaussAdvancedBorder_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Three channel 16-bit unsigned Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.48 NppStatus nppiFilterGaussAdvancedBorder_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.49 NppStatus nppiFilterGaussAdvancedBorder_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point Gauss filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.50 NppStatus nppiFilterGaussAdvancedBorder_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.51 NppStatus nppiFilterGaussAdvancedBorder_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Three channel 32-bit floating-point Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.52 NppStatus nppiFilterGaussAdvancedBorder_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.53 NppStatus nppiFilterGaussAdvancedBorder_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned Gauss filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.54 NppStatus nppiFilterGaussAdvancedBorder_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.55 NppStatus nppiFilterGaussAdvancedBorder_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.56 NppStatus nppiFilterGaussAdvancedBorder_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.57 NppStatus nppiFilterGaussBorder_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 16-bit signed Gauss filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.58 NppStatus nppiFilterGaussBorder_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 16-bit signed Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.59 NppStatus nppiFilterGaussBorder_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Three channel 16-bit signed Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.60 NppStatus nppiFilterGaussBorder_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 16-bit signed Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.61 NppStatus nppiFilterGaussBorder_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned Gauss filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.62 NppStatus nppiFilterGaussBorder_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 16-bit unsigned Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.63 NppStatus nppiFilterGaussBorder_16u_C3R (const Npp16u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Three channel 16-bit unsigned Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.64 NppStatus nppiFilterGaussBorder_16u_C4R (const Npp16u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.65 NppStatus nppiFilterGaussBorder_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point Gauss filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.66 NppStatus nppiFilterGaussBorder_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.67 NppStatus nppiFilterGaussBorder_32f_C3R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Three channel 32-bit floating-point Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.68 NppStatus nppiFilterGaussBorder_32f_C4R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.69 NppStatus nppiFilterGaussBorder_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned Gauss filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.70 NppStatus nppiFilterGaussBorder_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.71 NppStatus nppiFilterGaussBorder_8u_C3R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.72 NppStatus nppiFilterGaussBorder_8u_C4R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned Gauss filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.73 NppStatus nppiFilterGaussPyramidLayerDownBorder_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRate*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Single channel 16-bit unsigned Gauss filter with downsampling and border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRate The downsampling rate to be used. For integer equivalent rates unnecessary source pixels are just skipped. For non-integer rates the source image is bilinear interpolated. nRate must be > 1.0F and <= 10.0F.

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.74 NppStatus nppiFilterGaussPyramidLayerDownBorder_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRate*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Three channel 16-bit unsigned Gauss filter with downsampling and border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRate The downsampling rate to be used. For integer equivalent rates unnecessary source pixels are just skipped. For non-integer rates the source image is bilinear interpolated. nRate must be > 1.0F and <= 10.0F.

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.75 NppStatus nppiFilterGaussPyramidLayerDownBorder_32f_C1R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRate*, const int *nFilterTaps*, const Npp32f $*$ *pKernel*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point Gauss filter downsampling and with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRate The downsampling rate to be used. For integer equivalent rates unnecessary source pixels are just skipped. For non-integer rates the source image is bilinear interpolated. nRate must be > 1.0F and <= 10.0F.

nFilterTaps The number of filter taps where nFilterTaps = 2 $*$ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.76 NppStatus nppiFilterGaussPyramidLayerDownBorder_32f_C3R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRate*, const int *nFilterTaps*, const Npp32f $*$ *pKernel*, NppiBorderType *eBorderType*)

Three channel 32-bit floating-point Gauss filter with downsampling and border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRate The downsampling rate to be used. For integer equivalent rates unnecessary source pixels are just skipped. For non-integer rates the source image is bilinear interpolated. nRate must be > 1.0F and <= 10.0F.

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.77 NppStatus nppiFilterGaussPyramidLayerDownBorder_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRate*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned Gauss filter with downsampling and border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRate The downsampling rate to be used. For integer equivalent rates unnecessary source pixels are just skipped. For non-integer rates the source image is bilinear interpolated. nRate must be > 1.0F and <= 10.0F.

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.78 NppStatus nppiFilterGaussPyramidLayerDownBorder_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRate*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned Gauss filter with downsampling and border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRate The downsampling rate to be used. For integer equivalent rates unnecessary source pixels are just skipped. For non-integer rates the source image is bilinear interpolated. nRate must be > 1.0F and <= 10.0F.

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.79 NppStatus nppiFilterGaussPyramidLayerUpBorder_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRate*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Single channel 16-bit unsigned Gauss filter with upsampling and border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRate The upsampling rate to be used. For integer equivalent rates unnecessary source pixels are just skipped. For non-integer rates the source image is bilinear interpolated. nRate must be > 1.0F and <= 10.0F.

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.80 NppStatus nppiFilterGaussPyramidLayerUpBorder_16u_C3R (const Npp16u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRate*, const int *nFilterTaps*, const Npp32f * *pKernel*, NppiBorderType *eBorderType*)

Three channel 16-bit unsigned Gauss filter with upsampling and border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRate The upsampling rate to be used. For integer equivalent rates unnecessary source pixels are just skipped. For non-integer rates the source image is bilinear interpolated. nRate must be > 1.0F and <= 10.0F.

nFilterTaps The number of filter taps where nFilterTaps = 2 * ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.81 NppStatus nppiFilterGaussPyramidLayerUpBorder_32f_C1R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRate*, const int *nFilterTaps*, const Npp32f * *pKernel*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point Gauss filter upsampling and with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRate The upsampling rate to be used. For integer equivalent rates unnecessary source pixels are just skipped. For non-integer rates the source image is bilinear interpolated. nRate must be > 1.0F and <= 10.0F.

nFilterTaps The number of filter taps where nFilterTaps = 2 * ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.82 NppStatus nppiFilterGaussPyramidLayerUpBorder_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRate*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Three channel 32-bit floating-point Gauss filter with upsampling and border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRate The upsampling rate to be used. For integer equivalent rates unnecessary source pixels are just skipped. For non-integer rates the source image is bilinear interpolated. nRate must be > 1.0F and <= 10.0F.

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.83 NppStatus nppiFilterGaussPyramidLayerUpBorder_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRate*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned Gauss filter with upsampling and border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRate The upsampling rate to be used. For integer equivalent rates unnecessary source pixels are just skipped. For non-integer rates the source image is bilinear interpolated. nRate must be > 1.0F and <= 10.0F.

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.84 NppStatus nppiFilterGaussPyramidLayerUpBorder_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRate*, const int *nFilterTaps*, const Npp32f ∗ *pKernel*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned Gauss filter with upsampling and border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRate The upsampling rate to be used. For integer equivalent rates unnecessary source pixels are just skipped. For non-integer rates the source image is bilinear interpolated. nRate must be > 1.0F and <= 10.0F.

nFilterTaps The number of filter taps where nFilterTaps = 2 ∗ ((int)((float)ceil(radius) + 0.5F)) + 1.

pKernel Pointer to an array of nFilterTaps kernel coefficients which sum to 1.0F.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.85 NppStatus nppiFilterHarrisCornersBorder_8u32f_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, int *nDstStep*, NppiSize *oSizeROI*, NppiDifferentialKernel *eFilterType*, NppiMaskSize *eMaskSize*, NppiMaskSize *eAvgWindowSize*, Npp32f *nK*, Npp32f *nScale*, NppiBorderType *eBorderType*, Npp8u ∗ *pDeviceBuffer*)

1 channel 8-bit unsigned grayscale to 1 channel 32-bit floating point Harris corners response image with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst output edge destination_image_pointer.

nDstStep output edge destination_image_line_step.

oSizeROI Region-of-Interest (ROI).

eFilterType selects between Sobel or Scharr filter type.

eMaskSize fixed filter mask size to use (3x3 or 5x5 for Sobel).

eAvgWindowSize fixed window mask size to use (3x3 or 5x5).

nK Harris Corners constant (commonly used value is 0.04F).

nScale output is scaled by this scale factor.

eBorderType source image border type to use use.

pDeviceBuffer pointer to scratch DEVICE memory buffer of size hpBufferSize (see nppiFilterHarrisCornersBorderGetBufferSize() above)

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.86 NppStatus nppiFilterHarrisCornersBorderGetBufferSize (NppiSize *oSizeROI*, int * *hpBufferSize*)

Calculate scratch buffer size needed for the FilterHarrisCornersBorder function based on destination image SizeROI width and height.

Parameters:

oSizeROI Region-of-Interest (ROI).

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

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.87 NppStatus nppiFilterHighPass_16s_AC4R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 16-bit signed high-pass filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.88 NppStatus nppiFilterHighPass_16s_C1R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 16-bit signed high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.89 NppStatus nppiFilterHighPass_16s_C3R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Three channel 16-bit signed high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.90 NppStatus nppiFilterHighPass_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 16-bit signed high-pass filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.91 NppStatus nppiFilterHighPass_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 16-bit unsigned high-pass filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.92 NppStatus nppiFilterHighPass_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 16-bit unsigned high-pass filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.93 NppStatus nppiFilterHighPass_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Three channel 16-bit unsigned high-pass filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.94 NppStatus nppiFilterHighPass_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 16-bit unsigned high-pass filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.95 NppStatus nppiFilterHighPass_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 32-bit floating-point high-pass filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.96 NppStatus nppiFilterHighPass_32f_C1R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 32-bit floating-point high-pass filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.97 NppStatus nppiFilterHighPass_32f_C3R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Three channel 32-bit floating-point high-pass filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.98 NppStatus nppiFilterHighPass_32f_C4R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 32-bit floating-point high-pass filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.99 NppStatus nppiFilterHighPass_8u_AC4R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 8-bit unsigned high-pass filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.100 NppStatus nppiFilterHighPass_8u_C1R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 8-bit unsigned high-pass filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.101 NppStatus nppiFilterHighPass_8u_C3R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Three channel 8-bit unsigned high-pass filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.102 NppStatus nppiFilterHighPass_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 8-bit unsigned high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.103 NppStatus nppiFilterHighPassBorder_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 16-bit signed high-pass filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.104 NppStatus nppiFilterHighPassBorder_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 16-bit signed high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.105 NppStatus nppiFilterHighPassBorder_16s_C3R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Three channel 16-bit signed high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.106 NppStatus nppiFilterHighPassBorder_16s_C4R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 16-bit signed high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.107 NppStatus nppiFilterHighPassBorder_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned high-pass filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.108 NppStatus nppiFilterHighPassBorder_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 16-bit unsigned high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.109 NppStatus nppiFilterHighPassBorder_16u_C3R (const Npp16u $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Three channel 16-bit unsigned high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.110 NppStatus nppiFilterHighPassBorder_16u_C4R (const Npp16u $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.111 NppStatus nppiFilterHighPassBorder_32f_AC4R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point high-pass filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.112 NppStatus nppiFilterHighPassBorder_32f_C1R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.113 NppStatus nppiFilterHighPassBorder_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Three channel 32-bit floating-point high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.114 NppStatus nppiFilterHighPassBorder_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.115 NppStatus nppiFilterHighPassBorder_8u_AC4R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned high-pass filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.116 NppStatus nppiFilterHighPassBorder_8u_C1R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.117 NppStatus nppiFilterHighPassBorder_8u_C3R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.118 NppStatus nppiFilterHighPassBorder_8u_C4R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.119 NppStatus nppiFilterLaplace_16s_AC4R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 16-bit signed Laplace filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.120 NppStatus nppiFilterLaplace_16s_C1R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 16-bit signed Laplace filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.121 NppStatus nppiFilterLaplace_16s_C3R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Three channel 16-bit signed Laplace filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.122 NppStatus nppiFilterLaplace_16s_C4R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 16-bit signed Laplace filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.123 NppStatus nppiFilterLaplace_32f_AC4R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 32-bit floating-point Laplace filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.124 NppStatus nppiFilterLaplace_32f_C1R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 32-bit floating-point Laplace filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.125 NppStatus nppiFilterLaplace_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Three channel 32-bit floating-point Laplace filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.126 NppStatus nppiFilterLaplace_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 32-bit floating-point Laplace filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.127 NppStatus nppiFilterLaplace_8s16s_C1R (const Npp8s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 8-bit signed to 16-bit signed Laplace filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.128 NppStatus nppiFilterLaplace_8u16s_C1R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 8-bit unsigned to 16-bit signed Laplace filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.129 NppStatus nppiFilterLaplace_8u_AC4R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 8-bit unsigned Laplace filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.130 NppStatus nppiFilterLaplace_8u_C1R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 8-bit unsigned Laplace filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.131 NppStatus nppiFilterLaplace_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Three channel 8-bit unsigned Laplace filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.132 NppStatus nppiFilterLaplace_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 8-bit unsigned Laplace filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.133 NppStatus nppiFilterLaplaceBorder_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 16-bit signed Laplace filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.134 NppStatus nppiFilterLaplaceBorder_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 16-bit signed Laplace filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.135 NppStatus nppiFilterLaplaceBorder_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Three channel 16-bit signed Laplace filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.136 NppStatus nppiFilterLaplaceBorder_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 16-bit signed Laplace filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.137 NppStatus nppiFilterLaplaceBorder_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point Laplace filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.138 NppStatus nppiFilterLaplaceBorder_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point Laplace filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.139 NppStatus nppiFilterLaplaceBorder_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Three channel 32-bit floating-point Laplace filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.140 NppStatus nppiFilterLaplaceBorder_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point Laplace filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.141 NppStatus nppiFilterLaplaceBorder_8s16s_C1R (const Npp8s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 8-bit signed to 16-bit signed Laplace filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.142 NppStatus nppiFilterLaplaceBorder_8u16s_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned to 16-bit signed Laplace filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.143 NppStatus nppiFilterLaplaceBorder_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned Laplace filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.144 NppStatus nppiFilterLaplaceBorder_8u_C1R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned Laplace filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.145 NppStatus nppiFilterLaplaceBorder_8u_C3R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned Laplace filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.146 NppStatus nppiFilterLaplaceBorder_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned Laplace filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.147 NppStatus nppiFilterLowPass_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 16-bit signed low-pass filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.148 NppStatus nppiFilterLowPass_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 16-bit signed low-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.149 NppStatus nppiFilterLowPass_16s_C3R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Three channel 16-bit signed low-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.150 NppStatus nppiFilterLowPass_16s_C4R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 16-bit signed low-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.151 NppStatus nppiFilterLowPass_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 16-bit unsigned low-pass filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.152 NppStatus nppiFilterLowPass_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 16-bit unsigned low-pass filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.153 NppStatus nppiFilterLowPass_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Three channel 16-bit unsigned low-pass filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.154 NppStatus nppiFilterLowPass_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 16-bit unsigned low-pass filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.155 NppStatus nppiFilterLowPass_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 32-bit floating-point high-pass filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.156 NppStatus nppiFilterLowPass_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 32-bit floating-point low-pass filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.157 NppStatus nppiFilterLowPass_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Three channel 32-bit floating-point low-pass filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.158 NppStatus nppiFilterLowPass_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 32-bit floating-point low-pass filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.159 NppStatus nppiFilterLowPass_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 8-bit unsigned low-pass filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.160 NppStatus nppiFilterLowPass_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 8-bit unsigned low-pass filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.161 NppStatus nppiFilterLowPass_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Three channel 8-bit unsigned low-pass filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.162 NppStatus nppiFilterLowPass_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Four channel 8-bit unsigned low-pass filter.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
pDst Destination-Image Pointer.
nDstStep Destination-Image Line Step.
oSizeROI Region-of-Interest (ROI).
eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.163 NppStatus nppiFilterLowPassBorder_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 16-bit signed high-pass filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.164 NppStatus nppiFilterLowPassBorder_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 16-bit signed high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.165 NppStatus nppiFilterLowPassBorder_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Three channel 16-bit signed high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.166 NppStatus nppiFilterLowPassBorder_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 16-bit signed high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.167 NppStatus nppiFilterLowPassBorder_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned high-pass filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.168 NppStatus nppiFilterLowPassBorder_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 16-bit unsigned high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.169 NppStatus nppiFilterLowPassBorder_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Three channel 16-bit unsigned high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.170 NppStatus nppiFilterLowPassBorder_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.171 NppStatus nppiFilterLowPassBorder_32f_AC4R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point high-pass filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.172 NppStatus nppiFilterLowPassBorder_32f_C1R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.173 NppStatus nppiFilterLowPassBorder_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Three channel 32-bit floating-point high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.174 NppStatus nppiFilterLowPassBorder_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.175 NppStatus nppiFilterLowPassBorder_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned high-pass filter, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.176 NppStatus nppiFilterLowPassBorder_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.177 NppStatus nppiFilterLowPassBorder_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.178 NppStatus nppiFilterLowPassBorder_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned high-pass filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.179 NppStatus nppiFilterPrewittHoriz_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 16-bit signed horizontal Prewitt filter, ignoring alpha channel.

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

7.11.2.180 NppStatus nppiFilterPrewittHoriz_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 16-bit signed horizontal Prewitt filter.

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

7.11.2.181 NppStatus nppiFilterPrewittHoriz_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 16-bit signed horizontal Prewitt filter.

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

7.11.2.182 NppStatus nppiFilterPrewittHoriz_16s_C4R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 16-bit signed horizontal Prewitt filter.

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

7.11.2.183 NppStatus nppiFilterPrewittHoriz_32f_AC4R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 32-bit floating-point horizontal Prewitt filter, ignoring alpha channel.

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

7.11.2.184 NppStatus nppiFilterPrewittHoriz_32f_C1R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 32-bit floating-point horizontal Prewitt filter.

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

7.11.2.185 NppStatus nppiFilterPrewittHoriz_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 32-bit floating-point horizontal Prewitt filter.

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

7.11.2.186 NppStatus nppiFilterPrewittHoriz_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 32-bit floating-point horizontal Prewitt filter.

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

7.11.2.187 NppStatus nppiFilterPrewittHoriz_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 8-bit unsigned horizontal Prewitt filter, ignoring alpha channel.

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

7.11.2.188 NppStatus nppiFilterPrewittHoriz_8u_C1R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 8-bit unsigned horizontal Prewitt filter.

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

7.11.2.189 NppStatus nppiFilterPrewittHoriz_8u_C3R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 8-bit unsigned horizontal Prewitt filter.

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

7.11.2.190 NppStatus nppiFilterPrewittHoriz_8u_C4R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 8-bit unsigned horizontal Prewitt filter.

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

7.11.2.191 NppStatus nppiFilterPrewittHorizBorder_16s_AC4R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 16-bit signed horizontal Prewitt filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.192 NppStatus nppiFilterPrewittHorizBorder_16s_C1R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 16-bit signed horizontal Prewitt filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.193 NppStatus nppiFilterPrewittHorizBorder_16s_C3R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 16-bit signed horizontal Prewitt filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.194 NppStatus nppiFilterPrewittHorizBorder_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 16-bit signed horizontal Prewitt filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.195 NppStatus nppiFilterPrewittHorizBorder_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point horizontal Prewitt filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.196 NppStatus nppiFilterPrewittHorizBorder_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point horizontal Prewitt filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.197 NppStatus nppiFilterPrewittHorizBorder_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 32-bit floating-point horizontal Prewitt filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.198 NppStatus nppiFilterPrewittHorizBorder_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point horizontal Prewitt filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.199 NppStatus nppiFilterPrewittHorizBorder_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned horizontal Prewitt filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.200 NppStatus nppiFilterPrewittHorizBorder_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned horizontal Prewitt filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.201 NppStatus nppiFilterPrewittHorizBorder_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned horizontal Prewitt filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.202 NppStatus nppiFilterPrewittHorizBorder_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned horizontal Prewitt filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.203 NppStatus nppiFilterPrewittVert_16s_AC4R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 16-bit signed vertical Prewitt filter, ignoring alpha channel.

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

7.11.2.204 NppStatus nppiFilterPrewittVert_16s_C1R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 16-bit signed vertical Prewitt filter.

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

7.11.2.205 NppStatus nppiFilterPrewittVert_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 16-bit signed vertical Prewitt filter.

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

7.11.2.206 NppStatus nppiFilterPrewittVert_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 16-bit signed vertical Prewitt filter.

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

7.11.2.207 NppStatus nppiFilterPrewittVert_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 32-bit floating-point vertical Prewitt filter, ignoring alpha channel.

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

7.11.2.208 NppStatus nppiFilterPrewittVert_32f_C1R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 32-bit floating-point vertical Prewitt filter.

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

7.11.2.209 NppStatus nppiFilterPrewittVert_32f_C3R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 32-bit floating-point vertical Prewitt filter.

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

7.11.2.210 NppStatus nppiFilterPrewittVert_32f_C4R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 32-bit floating-point vertical Prewitt filter.

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

7.11.2.211 NppStatus nppiFilterPrewittVert_8u_AC4R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 8-bit unsigned vertical Prewitt filter, ignoring alpha channel.

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

7.11.2.212 NppStatus nppiFilterPrewittVert_8u_C1R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 8-bit unsigned vertical Prewitt filter.

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

7.11.2.213 NppStatus nppiFilterPrewittVert_8u_C3R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 8-bit unsigned vertical Prewitt filter.

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

7.11.2.214 NppStatus nppiFilterPrewittVert_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 8-bit unsigned vertical Prewitt filter.

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

7.11.2.215 NppStatus nppiFilterPrewittVertBorder_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 16-bit signed vertical Prewitt filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.216 NppStatus nppiFilterPrewittVertBorder_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 16-bit signed vertical Prewitt filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.217 NppStatus nppiFilterPrewittVertBorder_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 16-bit signed vertical Prewitt filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.218 NppStatus nppiFilterPrewittVertBorder_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 16-bit signed vertical Prewitt filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.219 NppStatus nppiFilterPrewittVertBorder_32f_AC4R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point vertical Prewitt filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.220 NppStatus nppiFilterPrewittVertBorder_32f_C1R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point vertical Prewitt filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.221 NppStatus nppiFilterPrewittVertBorder_32f_C3R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 32-bit floating-point vertical Prewitt filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.222 NppStatus nppiFilterPrewittVertBorder_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point vertical Prewitt filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.223 NppStatus nppiFilterPrewittVertBorder_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned vertical Prewitt filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.224 NppStatus nppiFilterPrewittVertBorder_8u_C1R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned vertical Prewitt filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.225 NppStatus nppiFilterPrewittVertBorder_8u_C3R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned vertical Prewitt filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.226 NppStatus nppiFilterPrewittVertBorder_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned vertical Prewitt filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.227 NppStatus nppiFilterRobertsDown_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 16-bit signed horizontal Roberts filter, ignoring alpha-channel.

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

7.11.2.228 NppStatus nppiFilterRobertsDown_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 16-bit signed horizontal Roberts filter.

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

7.11.2.229 NppStatus nppiFilterRobertsDown_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 16-bit signed horizontal Roberts filter.

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

7.11.2.230 NppStatus nppiFilterRobertsDown_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 16-bit signed horizontal Roberts filter.

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

7.11.2.231 NppStatus nppiFilterRobertsDown_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 32-bit floating-point horizontal Roberts filter, ignoring alpha-channel.

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

7.11.2.232 NppStatus nppiFilterRobertsDown_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 32-bit floating-point horizontal Roberts filter.

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

7.11.2.233 NppStatus nppiFilterRobertsDown_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 32-bit floating-point horizontal Roberts filter.

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

7.11.2.234 NppStatus nppiFilterRobertsDown_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 32-bit floating-point horizontal Roberts filter.

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

7.11.2.235 NppStatus nppiFilterRobertsDown_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 8-bit unsigned horizontal Roberts filter, ignoring alpha-channel.

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

7.11.2.236 NppStatus nppiFilterRobertsDown_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 8-bit unsigned horizontal Roberts filter.

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

7.11.2.237 NppStatus nppiFilterRobertsDown_8u_C3R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 8-bit unsigned horizontal Roberts filter.

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

7.11.2.238 NppStatus nppiFilterRobertsDown_8u_C4R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 8-bit unsigned horizontal Roberts filter.

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

7.11.2.239 NppStatus nppiFilterRobertsDownBorder_16s_AC4R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 16-bit signed horizontal Roberts filter with border control, ignoring alpha-channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.240 NppStatus nppiFilterRobertsDownBorder_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 16-bit signed horizontal Roberts filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.241 NppStatus nppiFilterRobertsDownBorder_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 16-bit signed horizontal Roberts filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.242 NppStatus nppiFilterRobertsDownBorder_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 16-bit signed horizontal Roberts filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.243 NppStatus nppiFilterRobertsDownBorder_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point horizontal Roberts filter with border control, ignoring alpha-channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.244 NppStatus nppiFilterRobertsDownBorder_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point horizontal Roberts filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.245 NppStatus nppiFilterRobertsDownBorder_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 32-bit floating-point horizontal Roberts filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.246 NppStatus nppiFilterRobertsDownBorder_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point horizontal Roberts filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.247 NppStatus nppiFilterRobertsDownBorder_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned horizontal Roberts filter with border control, ignoring alpha-channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.248 NppStatus nppiFilterRobertsDownBorder_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned horizontal Roberts filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.249 NppStatus nppiFilterRobertsDownBorder_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned horizontal Roberts filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.250 NppStatus nppiFilterRobertsDownBorder_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned horizontal Roberts filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.251 NppStatus nppiFilterRobertsUp_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 16-bit signed vertical Roberts filter, ignoring alpha-channel.

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

7.11.2.252 NppStatus nppiFilterRobertsUp_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 16-bit signed vertical Roberts filter.

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

7.11.2.253 NppStatus nppiFilterRobertsUp_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 16-bit signed vertical Roberts filter.

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

7.11.2.254 NppStatus nppiFilterRobertsUp_16s_C4R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 16-bit signed vertical Roberts filter.

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

7.11.2.255 NppStatus nppiFilterRobertsUp_32f_AC4R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 32-bit floating-point vertical Roberts filter, ignoring alpha-channel.

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

7.11.2.256 NppStatus nppiFilterRobertsUp_32f_C1R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 32-bit floating-point vertical Roberts filter.

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

7.11.2.257 NppStatus nppiFilterRobertsUp_32f_C3R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 32-bit floating-point vertical Roberts filter.

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

7.11.2.258 NppStatus nppiFilterRobertsUp_32f_C4R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 32-bit floating-point vertical Roberts filter.

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

7.11.2.259 NppStatus nppiFilterRobertsUp_8u_AC4R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 8-bit unsigned vertical Roberts filter, ignoring alpha-channel.

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

7.11.2.260 NppStatus nppiFilterRobertsUp_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 8-bit unsigned vertical Roberts filter.

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

7.11.2.261 NppStatus nppiFilterRobertsUp_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 8-bit unsigned vertical Roberts filter.

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

7.11.2.262 NppStatus nppiFilterRobertsUp_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 8-bit unsigned vertical Roberts filter.

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

7.11.2.263 NppStatus nppiFilterRobertsUpBorder_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 16-bit signed vertical Roberts filter with border control, ignoring alpha-channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.264 NppStatus nppiFilterRobertsUpBorder_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 16-bit signed vertical Roberts filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.265 NppStatus nppiFilterRobertsUpBorder_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 16-bit signed vertical Roberts filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.266 NppStatus nppiFilterRobertsUpBorder_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 16-bit signed vertical Roberts filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.267 NppStatus nppiFilterRobertsUpBorder_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point vertical Roberts filter with border control, ignoring alpha-channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.268 NppStatus nppiFilterRobertsUpBorder_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point vertical Roberts filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.269 NppStatus nppiFilterRobertsUpBorder_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 32-bit floating-point vertical Roberts filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.270 NppStatus nppiFilterRobertsUpBorder_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point vertical Roberts filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.271 NppStatus nppiFilterRobertsUpBorder_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned vertical Roberts filter with border control, ignoring alpha-channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.272 NppStatus nppiFilterRobertsUpBorder_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned vertical Roberts filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.273 NppStatus nppiFilterRobertsUpBorder_8u_C3R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned vertical Roberts filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.274 NppStatus nppiFilterRobertsUpBorder_8u_C4R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned vertical Roberts filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.275 NppStatus nppiFilterScharrHoriz_32f_C1R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 32-bit floating-point horizontal Scharr filter.

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

7.11.2.276 NppStatus nppiFilterScharrHoriz_8s16s_C1R (const Npp8s * *pSrc*, Npp32s *nSrcStep*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 8-bit signed to 16-bit signed horizontal Scharr filter.

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

7.11.2.277 NppStatus nppiFilterScharrHoriz_8u16s_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 8-bit unsigned to 16-bit signed horizontal Scharr filter.

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

7.11.2.278 NppStatus nppiFilterScharrHorizBorder_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point horizontal Scharr filter kernel with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.279 NppStatus nppiFilterScharrHorizBorder_8s16s_C1R (const Npp8s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 8-bit signed to 16-bit signed horizontal Scharr filter kernel with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.280 NppStatus nppiFilterScharrHorizBorder_8u16s_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned to 16-bit signed horizontal Scharr filter kernel with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.281 NppStatus nppiFilterScharrVert_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 32-bit floating-point vertical Scharr filter.

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

7.11.2.282 NppStatus nppiFilterScharrVert_8s16s_C1R (const Npp8s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 8-bit signed to 16-bit signed vertical Scharr filter.

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

7.11.2.283 NppStatus nppiFilterScharrVert_8u16s_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 8-bit unsigned to 16-bit signed vertical Scharr filter.

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

7.11.2.284 NppStatus nppiFilterScharrVertBorder_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point vertical Scharr filter kernel with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.285 NppStatus nppiFilterScharrVertBorder_8s16s_C1R (const Npp8s * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 8-bit signed to 16-bit signed vertical Scharr filter kernel with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.286 NppStatus nppiFilterScharrVertBorder_8u16s_C1R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned to 16-bit signed vertical Scharr filter kernel with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.287 NppStatus nppiFilterSharpen_16s_AC4R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 16-bit signed sharpening filter, ignoring alpha channel.

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

7.11.2.288 NppStatus nppiFilterSharpen_16s_C1R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 16-bit signed sharpening filter.

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

7.11.2.289 NppStatus nppiFilterSharpen_16s_C3R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 16-bit signed sharpening filter.

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

7.11.2.290 NppStatus nppiFilterSharpen_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 16-bit signed sharpening filter.

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

7.11.2.291 NppStatus nppiFilterSharpen_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 16-bit unsigned sharpening filter, ignoring alpha channel.

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

7.11.2.292 NppStatus nppiFilterSharpen_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 16-bit unsigned sharpening filter.

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

7.11.2.293 NppStatus nppiFilterSharpen_16u_C3R (const Npp16u $*$ *pSrc*, Npp32s *nSrcStep*, Npp16u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 16-bit unsigned sharpening filter.

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

7.11.2.294 NppStatus nppiFilterSharpen_16u_C4R (const Npp16u $*$ *pSrc*, Npp32s *nSrcStep*, Npp16u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 16-bit unsigned sharpening filter.

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

7.11.2.295 NppStatus nppiFilterSharpen_32f_AC4R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 32-bit floating-point sharpening filter, ignoring alpha channel.

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

7.11.2.296 NppStatus nppiFilterSharpen_32f_C1R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 32-bit floating-point sharpening filter.

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

7.11.2.297 NppStatus nppiFilterSharpen_32f_C3R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 32-bit floating-point sharpening filter.

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

7.11.2.298 NppStatus nppiFilterSharpen_32f_C4R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 32-bit floating-point sharpening filter.

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

7.11.2.299 NppStatus nppiFilterSharpen_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 8-bit unsigned sharpening filter, ignoring alpha channel.

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

7.11.2.300 NppStatus nppiFilterSharpen_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 8-bit unsigned sharpening filter.

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

7.11.2.301 NppStatus nppiFilterSharpen_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 8-bit unsigned sharpening filter.

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

7.11.2.302 NppStatus nppiFilterSharpen_8u_C4R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 8-bit unsigned sharpening filter.

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

7.11.2.303 NppStatus nppiFilterSharpenBorder_16s_AC4R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 16-bit signed sharpening filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.304 NppStatus nppiFilterSharpenBorder_16s_C1R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 16-bit signed sharpening filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.305 NppStatus nppiFilterSharpenBorder_16s_C3R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 16-bit signed sharpening filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.306 NppStatus nppiFilterSharpenBorder_16s_C4R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 16-bit signed sharpening filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.307 NppStatus nppiFilterSharpenBorder_16u_AC4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned sharpening filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.308 NppStatus nppiFilterSharpenBorder_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 16-bit unsigned sharpening filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.309 NppStatus nppiFilterSharpenBorder_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 16-bit unsigned sharpening filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.310 NppStatus nppiFilterSharpenBorder_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 16-bit unsigned sharpening filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.311 NppStatus nppiFilterSharpenBorder_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point sharpening filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.312 NppStatus nppiFilterSharpenBorder_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point sharpening filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.313 NppStatus nppiFilterSharpenBorder_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 32-bit floating-point sharpening filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.314 NppStatus nppiFilterSharpenBorder_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point sharpening filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.315 NppStatus nppiFilterSharpenBorder_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned sharpening filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.316 NppStatus nppiFilterSharpenBorder_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned sharpening filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.317 NppStatus nppiFilterSharpenBorder_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned sharpening filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.318 NppStatus nppiFilterSharpenBorder_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned sharpening filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.319 NppStatus nppiFilterSobelCross_32f_C1R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 32-bit floating-point second cross derivative Sobel filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.320 NppStatus nppiFilterSobelCross_8s16s_C1R (const Npp8s $*$ *pSrc*, Npp32s *nSrcStep*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 8-bit signed to 16-bit signed second cross derivative Sobel filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.321 NppStatus nppiFilterSobelCross_8u16s_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 8-bit unsigned to 16-bit signed second cross derivative Sobel filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.322 NppStatus nppiFilterSobelCrossBorder_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point second cross derivative Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.323 NppStatus nppiFilterSobelCrossBorder_8s16s_C1R (const Npp8s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 8-bit signed to 16-bit signed second cross derivative Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.324 NppStatus nppiFilterSobelCrossBorder_8u16s_C1R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned to 16-bit signed second cross derivative Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.325 NppStatus nppiFilterSobelHoriz_16s_AC4R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 8-bit unsigned horizontal Sobel filter, ignoring alpha channel.

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

7.11.2.326 NppStatus nppiFilterSobelHoriz_16s_C1R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 16-bit signed horizontal Sobel filter.

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

7.11.2.327 NppStatus nppiFilterSobelHoriz_16s_C3R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 16-bit signed horizontal Sobel filter.

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

7.11.2.328 NppStatus nppiFilterSobelHoriz_16s_C4R (const Npp16s $*$ *pSrc*, Npp32s *nSrcStep*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 16-bit signed horizontal Sobel filter.

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

7.11.2.329 NppStatus nppiFilterSobelHoriz_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 32-bit floating-point horizontal Sobel filter, ignoring alpha channel.

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

7.11.2.330 NppStatus nppiFilterSobelHoriz_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 32-bit floating-point horizontal Sobel filter.

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

7.11.2.331 NppStatus nppiFilterSobelHoriz_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 32-bit floating-point horizontal Sobel filter.

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

7.11.2.332 NppStatus nppiFilterSobelHoriz_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 32-bit floating-point horizontal Sobel filter.

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

7.11.2.333 NppStatus nppiFilterSobelHoriz_8s16s_C1R (const Npp8s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 8-bit signed to 16-bit signed horizontal Sobel filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.334 NppStatus nppiFilterSobelHoriz_8u16s_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 8-bit unsigned to 16-bit signed horizontal Sobel filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.335 NppStatus nppiFilterSobelHoriz_8u_AC4R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 16-bit signed horizontal Sobel filter, ignoring alpha channel.

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

7.11.2.336 NppStatus nppiFilterSobelHoriz_8u_C1R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 8-bit unsigned horizontal Sobel filter.

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

7.11.2.337 NppStatus nppiFilterSobelHoriz_8u_C3R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 8-bit unsigned horizontal Sobel filter.

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

7.11.2.338 NppStatus nppiFilterSobelHoriz_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 8-bit unsigned horizontal Sobel filter.

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

7.11.2.339 NppStatus nppiFilterSobelHorizBorder_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned horizontal Sobel filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.340 NppStatus nppiFilterSobelHorizBorder_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 16-bit signed horizontal Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.341 NppStatus nppiFilterSobelHorizBorder_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 16-bit signed horizontal Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.342 NppStatus nppiFilterSobelHorizBorder_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 16-bit signed horizontal Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.343 NppStatus nppiFilterSobelHorizBorder_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point horizontal Sobel filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.344 NppStatus nppiFilterSobelHorizBorder_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point horizontal Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.345 NppStatus nppiFilterSobelHorizBorder_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 32-bit floating-point horizontal Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.346 NppStatus nppiFilterSobelHorizBorder_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point horizontal Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.347 NppStatus nppiFilterSobelHorizBorder_8s16s_C1R (const Npp8s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 8-bit signed to 16-bit signed horizontal Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.348 NppStatus nppiFilterSobelHorizBorder_8u16s_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned to 16-bit signed horizontal Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.349 NppStatus nppiFilterSobelHorizBorder_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 16-bit signed horizontal Sobel filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.350 NppStatus nppiFilterSobelHorizBorder_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned horizontal Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.351 NppStatus nppiFilterSobelHorizBorder_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned horizontal Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.352 NppStatus nppiFilterSobelHorizBorder_8u_C4R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned horizontal Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.353 NppStatus nppiFilterSobelHorizMask_32f_C1R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 32-bit floating-point horizontal Sobel filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.354 NppStatus nppiFilterSobelHorizMaskBorder_32f_C1R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point horizontal Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.355 NppStatus nppiFilterSobelHorizSecond_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 32-bit floating-point second derivative, horizontal Sobel filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.356 NppStatus nppiFilterSobelHorizSecond_8s16s_C1R (const Npp8s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 8-bit signed to 16-bit signed second derivative, horizontal Sobel filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.357 NppStatus nppiFilterSobelHorizSecond_8u16s_C1R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 8-bit unsigned to 16-bit signed second derivative, horizontal Sobel filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.358 NppStatus nppiFilterSobelHorizSecondBorder_32f_C1R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point second derivative, horizontal Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.359 NppStatus nppiFilterSobelHorizSecondBorder_8s16s_C1R (const Npp8s * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 8-bit signed to 16-bit signed second derivative, horizontal Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.360 NppStatus nppiFilterSobelHorizSecondBorder_8u16s_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned to 16-bit signed second derivative, horizontal Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.361 NppStatus nppiFilterSobelVert_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 8-bit unsigned vertical Sobel filter, ignoring alpha channel.

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

7.11.2.362 NppStatus nppiFilterSobelVert_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 16-bit signed vertical Sobel filter.

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

7.11.2.363 NppStatus nppiFilterSobelVert_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 16-bit signed vertical Sobel filter.

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

7.11.2.364 NppStatus nppiFilterSobelVert_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 16-bit signed vertical Sobel filter.

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

7.11.2.365 NppStatus nppiFilterSobelVert_32f_AC4R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 32-bit floating-point vertical Sobel filter, ignoring alpha channel.

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

7.11.2.366 NppStatus nppiFilterSobelVert_32f_C1R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 32-bit floating-point vertical Sobel filter.

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

7.11.2.367 NppStatus nppiFilterSobelVert_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 32-bit floating-point vertical Sobel filter.

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

7.11.2.368 NppStatus nppiFilterSobelVert_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 32-bit floating-point vertical Sobel filter.

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

7.11.2.369 NppStatus nppiFilterSobelVert_8s16s_C1R (const Npp8s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 8-bit signed to 16-bit signed vertical Sobel filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.370 NppStatus nppiFilterSobelVert_8u16s_C1R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, Npp16s $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 8-bit unsigned to 16-bit signed vertical Sobel filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.371 NppStatus nppiFilterSobelVert_8u_AC4R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 16-bit signed vertical Sobel filter, ignoring alpha channel.

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

7.11.2.372 NppStatus nppiFilterSobelVert_8u_C1R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Single channel 8-bit unsigned vertical Sobel filter.

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

7.11.2.373 NppStatus nppiFilterSobelVert_8u_C3R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Three channel 8-bit unsigned vertical Sobel filter.

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

7.11.2.374 NppStatus nppiFilterSobelVert_8u_C4R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, Npp8u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*)

Four channel 8-bit unsigned vertical Sobel filter.

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

7.11.2.375 NppStatus nppiFilterSobelVertBorder_16s_AC4R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned vertical Sobel filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.376 NppStatus nppiFilterSobelVertBorder_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 16-bit signed vertical Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.377 NppStatus nppiFilterSobelVertBorder_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 16-bit signed vertical Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.378 NppStatus nppiFilterSobelVertBorder_16s_C4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 16-bit signed vertical Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.379 NppStatus nppiFilterSobelVertBorder_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point vertical Sobel filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.380 NppStatus nppiFilterSobelVertBorder_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point vertical Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.381 NppStatus nppiFilterSobelVertBorder_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 32-bit floating-point vertical Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.382 NppStatus nppiFilterSobelVertBorder_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 32-bit floating-point vertical Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.383 NppStatus nppiFilterSobelVertBorder_8s16s_C1R (const Npp8s * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 8-bit signed to 16-bit signed vertical Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.384 NppStatus nppiFilterSobelVertBorder_8u16s_C1R (const Npp8u * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned to 16-bit signed vertical Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.385 NppStatus nppiFilterSobelVertBorder_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 16-bit signed vertical Sobel filter with border control, ignoring alpha channel.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.386 NppStatus nppiFilterSobelVertBorder_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned vertical Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.387 NppStatus nppiFilterSobelVertBorder_8u_C3R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Three channel 8-bit unsigned vertical Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.388 NppStatus nppiFilterSobelVertBorder_8u_C4R (const Npp8u $*$ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp8u $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiBorderType *eBorderType*)

Four channel 8-bit unsigned vertical Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.389 NppStatus nppiFilterSobelVertMask_32f_C1R (const Npp32f $*$ *pSrc*, Npp32s *nSrcStep*, Npp32f $*$ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 32-bit floating-point vertical Sobel filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.390 NppStatus nppiFilterSobelVertMaskBorder_32f_C1R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point vertical Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.391 NppStatus nppiFilterSobelVertSecond_32f_C1R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 32-bit floating-point second derivative, vertical Sobel filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.392 NppStatus nppiFilterSobelVertSecond_8s16s_C1R (const Npp8s ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 8-bit signed to 16-bit signed second derivative, vertical Sobel filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.393 NppStatus nppiFilterSobelVertSecond_8u16s_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*)

Single channel 8-bit unsigned to 16-bit signed second derivative, vertical Sobel filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.394 NppStatus nppiFilterSobelVertSecondBorder_32f_C1R (const Npp32f * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 32-bit floating-point second derivative, vertical Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.395 NppStatus nppiFilterSobelVertSecondBorder_8s16s_C1R (const Npp8s * *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 8-bit signed to 16-bit signed second derivative, vertical Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.396 NppStatus nppiFilterSobelVertSecondBorder_8u16s_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiBorderType *eBorderType*)

Single channel 8-bit unsigned to 16-bit signed second derivative, vertical Sobel filter with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

eMaskSize Enumeration value specifying the mask size.

eBorderType The border type operation to be applied at source image border boundaries.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.397 NppStatus nppiFilterUnsharpBorder_16s_AC4R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRadius*, Npp32f *nSigma*, Npp32f *nWeight*, Npp32f *nThreshold*, NppiBorderType *eBorderType*, Npp8u ∗ *pDeviceBuffer*)

Four channel 16-bit signed unsharp filter (alpha channel is not processed).

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

nWeight The percentage of the difference between the original and the high pass image that is added back into the original.

nThreshold The threshold neede to apply the difference amount.

eBorderType The border type operation to be applied at source image border boundaries.

pDeviceBuffer Pointer to the user-allocated device scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.398 NppStatus nppiFilterUnsharpBorder_16s_C1R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRadius*, Npp32f *nSigma*, Npp32f *nWeight*, Npp32f *nThreshold*, NppiBorderType *eBorderType*, Npp8u ∗ *pDeviceBuffer*)

Single channel 16-bit signed unsharp filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

nWeight The percentage of the difference between the original and the high pass image that is added back into the original.

nThreshold The threshold neede to apply the difference amount.

eBorderType The border type operation to be applied at source image border boundaries.

pDeviceBuffer Pointer to the user-allocated device scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.399 NppStatus nppiFilterUnsharpBorder_16s_C3R (const Npp16s ∗ *pSrc*, Npp32s *nSrcStep*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRadius*, Npp32f *nSigma*, Npp32f *nWeight*, Npp32f *nThreshold*, NppiBorderType *eBorderType*, Npp8u ∗ *pDeviceBuffer*)

Three channel 16-bit signed unsharp filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

nWeight The percentage of the difference between the original and the high pass image that is added back into the original.

nThreshold The threshold neede to apply the difference amount.

eBorderType The border type operation to be applied at source image border boundaries.

pDeviceBuffer Pointer to the user-allocated device scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.400 NppStatus nppiFilterUnsharpBorder_16s_C4R (const Npp16s * *pSrc*, Npp32s *nSrcStep*, NppiPoint *oSrcOffset*, Npp16s * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRadius*, Npp32f *nSigma*, Npp32f *nWeight*, Npp32f *nThreshold*, NppiBorderType *eBorderType*, Npp8u * *pDeviceBuffer*)

Four channel 16-bit signed unsharp filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

nWeight The percentage of the difference between the original and the high pass image that is added back into the original.

nThreshold The threshold neede to apply the difference amount.

eBorderType The border type operation to be applied at source image border boundaries.

pDeviceBuffer Pointer to the user-allocated device scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.401 NppStatus nppiFilterUnsharpBorder_16u_AC4R (const Npp16u * *pSrc*, Npp32s *nSrcStep*, NppiPoint *oSrcOffset*, Npp16u * *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRadius*, Npp32f *nSigma*, Npp32f *nWeight*, Npp32f *nThreshold*, NppiBorderType *eBorderType*, Npp8u * *pDeviceBuffer*)

Four channel 16-bit unsigned unsharp filter (alpha channel is not processed).

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

nWeight The percentage of the difference between the original and the high pass image that is added back into the original.

nThreshold The threshold neede to apply the difference amount.

eBorderType The border type operation to be applied at source image border boundaries.

pDeviceBuffer Pointer to the user-allocated device scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.402 NppStatus nppiFilterUnsharpBorder_16u_C1R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRadius*, Npp32f *nSigma*, Npp32f *nWeight*, Npp32f *nThreshold*, NppiBorderType *eBorderType*, Npp8u ∗ *pDeviceBuffer*)

Single channel 16-bit unsigned unsharp filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

nWeight The percentage of the difference between the original and the high pass image that is added back into the original.

nThreshold The threshold neede to apply the difference amount.

eBorderType The border type operation to be applied at source image border boundaries.

pDeviceBuffer Pointer to the user-allocated device scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.403 NppStatus nppiFilterUnsharpBorder_16u_C3R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRadius*, Npp32f *nSigma*, Npp32f *nWeight*, Npp32f *nThreshold*, NppiBorderType *eBorderType*, Npp8u ∗ *pDeviceBuffer*)

Three channel 16-bit unsigned unsharp filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

nWeight The percentage of the difference between the original and the high pass image that is added back into the original.

nThreshold The threshold neede to apply the difference amount.

eBorderType The border type operation to be applied at source image border boundaries.

pDeviceBuffer Pointer to the user-allocated device scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.404 NppStatus nppiFilterUnsharpBorder_16u_C4R (const Npp16u ∗ *pSrc*, Npp32s *nSrcStep*, NppiPoint *oSrcOffset*, Npp16u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRadius*, Npp32f *nSigma*, Npp32f *nWeight*, Npp32f *nThreshold*, NppiBorderType *eBorderType*, Npp8u ∗ *pDeviceBuffer*)

Four channel 16-bit unsigned unsharp filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

nWeight The percentage of the difference between the original and the high pass image that is added back into the original.

nThreshold The threshold neede to apply the difference amount.

eBorderType The border type operation to be applied at source image border boundaries.

pDeviceBuffer Pointer to the user-allocated device scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.405 NppStatus nppiFilterUnsharpBorder_32f_AC4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRadius*, Npp32f *nSigma*, Npp32f *nWeight*, Npp32f *nThreshold*, NppiBorderType *eBorderType*, Npp8u ∗ *pDeviceBuffer*)

Four channel 32-bit floating point unsharp filter (alpha channel is not processed).

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

nWeight The percentage of the difference between the original and the high pass image that is added back into the original.

nThreshold The threshold neede to apply the difference amount.

eBorderType The border type operation to be applied at source image border boundaries.

pDeviceBuffer Pointer to the user-allocated device scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.406 NppStatus nppiFilterUnsharpBorder_32f_C1R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRadius*, Npp32f *nSigma*, Npp32f *nWeight*, Npp32f *nThreshold*, NppiBorderType *eBorderType*, Npp8u ∗ *pDeviceBuffer*)

Single channel 32-bit floating point unsharp filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

nWeight The percentage of the difference between the original and the high pass image that is added back into the original.

nThreshold The threshold neede to apply the difference amount.

eBorderType The border type operation to be applied at source image border boundaries.

pDeviceBuffer Pointer to the user-allocated device scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.407 NppStatus nppiFilterUnsharpBorder_32f_C3R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRadius*, Npp32f *nSigma*, Npp32f *nWeight*, Npp32f *nThreshold*, NppiBorderType *eBorderType*, Npp8u ∗ *pDeviceBuffer*)

Three channel 32-bit floating point unsharp filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

nWeight The percentage of the difference between the original and the high pass image that is added back into the original.

nThreshold The threshold neede to apply the difference amount.

eBorderType The border type operation to be applied at source image border boundaries.

pDeviceBuffer Pointer to the user-allocated device scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.408 NppStatus nppiFilterUnsharpBorder_32f_C4R (const Npp32f ∗ *pSrc*, Npp32s *nSrcStep*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRadius*, Npp32f *nSigma*, Npp32f *nWeight*, Npp32f *nThreshold*, NppiBorderType *eBorderType*, Npp8u ∗ *pDeviceBuffer*)

Four channel 32-bit floating point unsharp filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

nWeight The percentage of the difference between the original and the high pass image that is added back into the original.

nThreshold The threshold neede to apply the difference amount.

eBorderType The border type operation to be applied at source image border boundaries.

pDeviceBuffer Pointer to the user-allocated device scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.409 NppStatus nppiFilterUnsharpBorder_8u_AC4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRadius*, Npp32f *nSigma*, Npp32f *nWeight*, Npp32f *nThreshold*, NppiBorderType *eBorderType*, Npp8u ∗ *pDeviceBuffer*)

Four channel 8-bit unsigned unsharp filter (alpha channel is not processed).

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

nWeight The percentage of the difference between the original and the high pass image that is added back into the original.

nThreshold The threshold neede to apply the difference amount.

eBorderType The border type operation to be applied at source image border boundaries.

pDeviceBuffer Pointer to the user-allocated device scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.410 NppStatus nppiFilterUnsharpBorder_8u_C1R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRadius*, Npp32f *nSigma*, Npp32f *nWeight*, Npp32f *nThreshold*, NppiBorderType *eBorderType*, Npp8u ∗ *pDeviceBuffer*)

Single channel 8-bit unsigned unsharp filter.

Parameters:

- ***pSrc*** Source-Image Pointer.
- ***nSrcStep*** Source-Image Line Step.
- ***oSrcOffset*** The pixel offset that pSrc points to relative to the origin of the source image.
- ***pDst*** Destination-Image Pointer.
- ***nDstStep*** Destination-Image Line Step.
- ***oSizeROI*** Region-of-Interest (ROI).
- ***nRadius*** The radius of the Gaussian filter, in pixles, not counting the center pixel.
- ***nSigma*** The standard deviation of the Gaussian filter, in pixel.
- ***nWeight*** The percentage of the difference between the original and the high pass image that is added back into the original.
- ***nThreshold*** The threshold neede to apply the difference amount.
- ***eBorderType*** The border type operation to be applied at source image border boundaries.
- ***pDeviceBuffer*** Pointer to the user-allocated device scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.411 NppStatus nppiFilterUnsharpBorder_8u_C3R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRadius*, Npp32f *nSigma*, Npp32f *nWeight*, Npp32f *nThreshold*, NppiBorderType *eBorderType*, Npp8u ∗ *pDeviceBuffer*)

Three channel 8-bit unsigned unsharp filter.

Parameters:

- ***pSrc*** Source-Image Pointer.
- ***nSrcStep*** Source-Image Line Step.
- ***oSrcOffset*** The pixel offset that pSrc points to relative to the origin of the source image.
- ***pDst*** Destination-Image Pointer.
- ***nDstStep*** Destination-Image Line Step.
- ***oSizeROI*** Region-of-Interest (ROI).
- ***nRadius*** The radius of the Gaussian filter, in pixles, not counting the center pixel.
- ***nSigma*** The standard deviation of the Gaussian filter, in pixel.
- ***nWeight*** The percentage of the difference between the original and the high pass image that is added back into the original.
- ***nThreshold*** The threshold neede to apply the difference amount.
- ***eBorderType*** The border type operation to be applied at source image border boundaries.
- ***pDeviceBuffer*** Pointer to the user-allocated device scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.412 NppStatus nppiFilterUnsharpBorder_8u_C4R (const Npp8u ∗ *pSrc*, Npp32s *nSrcStep*, NppiPoint *oSrcOffset*, Npp8u ∗ *pDst*, Npp32s *nDstStep*, NppiSize *oSizeROI*, Npp32f *nRadius*, Npp32f *nSigma*, Npp32f *nWeight*, Npp32f *nThreshold*, NppiBorderType *eBorderType*, Npp8u ∗ *pDeviceBuffer*)

Four channel 8-bit unsigned unsharp filter.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDst Destination-Image Pointer.

nDstStep Destination-Image Line Step.

oSizeROI Region-of-Interest (ROI).

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

nWeight The percentage of the difference between the original and the high pass image that is added back into the original.

nThreshold The threshold neede to apply the difference amount.

eBorderType The border type operation to be applied at source image border boundaries.

pDeviceBuffer Pointer to the user-allocated device scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.413 NppStatus nppiFilterUnsharpGetBufferSize_16s_AC4R (const Npp32f *nRadius*, const Npp32f *nSigma*, int ∗ *hpBufferSize*)

Four channel 16-bit signed unsharp filter scratch memory size (alpha channel is not processed).

Parameters:

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

hpBufferSize Pointer to the size of the scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes

7.11.2.414 NppStatus nppiFilterUnsharpGetBufferSize_16s_C1R (const Npp32f *nRadius*, const Npp32f *nSigma*, int ∗ *hpBufferSize*)

Single channel 16-bit signed unsharp filter scratch memory size.

Parameters:

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

hpBufferSize Pointer to the size of the scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes

7.11.2.415 NppStatus nppiFilterUnsharpGetBufferSize_16s_C3R (const Npp32f *nRadius*, const Npp32f *nSigma*, int ∗ *hpBufferSize*)

Three channel 16-bit signed unsharp filter scratch memory size.

Parameters:

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

hpBufferSize Pointer to the size of the scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes

7.11.2.416 NppStatus nppiFilterUnsharpGetBufferSize_16s_C4R (const Npp32f *nRadius*, const Npp32f *nSigma*, int ∗ *hpBufferSize*)

Four channel 16-bit signed unsharp filter scratch memory size.

Parameters:

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

hpBufferSize Pointer to the size of the scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes

7.11.2.417 NppStatus nppiFilterUnsharpGetBufferSize_16u_AC4R (const Npp32f *nRadius*, const Npp32f *nSigma*, int ∗ *hpBufferSize*)

Four channel 16-bit unsigned unsharp filter scratch memory size (alpha channel is not processed).

Parameters:

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

hpBufferSize Pointer to the size of the scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes

7.11.2.418 NppStatus nppiFilterUnsharpGetBufferSize_16u_C1R (const Npp32f *nRadius*, const Npp32f *nSigma*, int ∗ *hpBufferSize*)

Single channel 16-bit unsigned unsharp filter scratch memory size.

Parameters:

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

hpBufferSize Pointer to the size of the scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes

7.11.2.419 NppStatus nppiFilterUnsharpGetBufferSize_16u_C3R (const Npp32f *nRadius*, const Npp32f *nSigma*, int ∗ *hpBufferSize*)

Three channel 16-bit unsigned unsharp filter scratch memory size.

Parameters:

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

hpBufferSize Pointer to the size of the scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes

7.11.2.420 NppStatus nppiFilterUnsharpGetBufferSize_16u_C4R (const Npp32f *nRadius*, const Npp32f *nSigma*, int ∗ *hpBufferSize*)

Four channel 16-bit unsigned unsharp filter scratch memory size.

Parameters:

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

hpBufferSize Pointer to the size of the scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes

7.11.2.421 NppStatus nppiFilterUnsharpGetBufferSize_32f_AC4R (const Npp32f *nRadius*, const Npp32f *nSigma*, int ∗ *hpBufferSize*)

Four channel 32-bit floating point unsharp filter scratch memory size (alpha channel is not processed).

Parameters:

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.
nSigma The standard deviation of the Gaussian filter, in pixel.
hpBufferSize Pointer to the size of the scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes

7.11.2.422 NppStatus nppiFilterUnsharpGetBufferSize_32f_C1R (const Npp32f *nRadius*, const Npp32f *nSigma*, int * *hpBufferSize*)

Single channel 32-bit floating point unsharp filter scratch memory size.

Parameters:

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.
nSigma The standard deviation of the Gaussian filter, in pixel.
hpBufferSize Pointer to the size of the scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes

7.11.2.423 NppStatus nppiFilterUnsharpGetBufferSize_32f_C3R (const Npp32f *nRadius*, const Npp32f *nSigma*, int * *hpBufferSize*)

Three channel 32-bit floating point unsharp filter scratch memory size.

Parameters:

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.
nSigma The standard deviation of the Gaussian filter, in pixel.
hpBufferSize Pointer to the size of the scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes

7.11.2.424 NppStatus nppiFilterUnsharpGetBufferSize_32f_C4R (const Npp32f *nRadius*, const Npp32f *nSigma*, int * *hpBufferSize*)

Four channel 32-bit floating point unsharp filter scratch memory size.

Parameters:

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.
nSigma The standard deviation of the Gaussian filter, in pixel.
hpBufferSize Pointer to the size of the scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes

7.11.2.425 NppStatus nppiFilterUnsharpGetBufferSize_8u_AC4R (const Npp32f *nRadius*, const Npp32f *nSigma*, int ∗ *hpBufferSize*)

Four channel 8-bit unsigned unsharp filter scratch memory size (alpha channel is not processed).

Parameters:

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

hpBufferSize Pointer to the size of the scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes

7.11.2.426 NppStatus nppiFilterUnsharpGetBufferSize_8u_C1R (const Npp32f *nRadius*, const Npp32f *nSigma*, int ∗ *hpBufferSize*)

Single channel 8-bit unsigned unsharp filter scratch memory size.

Parameters:

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

hpBufferSize Pointer to the size of the scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes

7.11.2.427 NppStatus nppiFilterUnsharpGetBufferSize_8u_C3R (const Npp32f *nRadius*, const Npp32f *nSigma*, int ∗ *hpBufferSize*)

Three channel 8-bit unsigned unsharp filter scratch memory size.

Parameters:

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

hpBufferSize Pointer to the size of the scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes

7.11.2.428 NppStatus nppiFilterUnsharpGetBufferSize_8u_C4R (const Npp32f *nRadius*, const Npp32f *nSigma*, int ∗ *hpBufferSize*)

Four channel 8-bit unsigned unsharp filter scratch memory size.

Parameters:

nRadius The radius of the Gaussian filter, in pixles, not counting the center pixel.

nSigma The standard deviation of the Gaussian filter, in pixel.

hpBufferSize Pointer to the size of the scratch buffer required for the unsharp operation.

Returns:

Image Data Related Error Codes

7.11.2.429 NppStatus nppiGetFilterGaussPyramidLayerDownBorderDstROI (int *nSrcROIWidth*, int *nSrcROIHeight*, NppiSize ∗ *pDstSizeROI*, Npp32f *nRate*)

Calculate destination image SizeROI width and height from source image ROI width and height and downsampling rate.

It is highly recommended that this function be use to determine the destination image ROI for consistent results.

Parameters:

nSrcROIWidth The desired source image ROI width, must be <= oSrcSize.width.

nSrcROIHeight The desired source image ROI height, must be <= oSrcSize.height.

pDstSizeROI Host memory pointer to the destination image roi_specification.

nRate The downsampling rate to be used. For integer equivalent rates unnecessary source pixels are just skipped. For non-integer rates the source image is bilinear interpolated. nRate must be > 1.0F and <= 10.0F.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.430 NppStatus nppiGetFilterGaussPyramidLayerUpBorderDstROI (int *nSrcROIWidth*, int *nSrcROIHeight*, NppiSize ∗ *pDstSizeROIMin*, NppiSize ∗ *pDstSizeROIMax*, Npp32f *nRate*)

Calculate destination image minimum and maximum SizeROI width and height from source image ROI width and height and upsampling rate.

It is highly recommended that this function be use to determine the best destination image ROI for consistent results.

Parameters:

nSrcROIWidth The desired source image ROI width, must be <= oSrcSize.width.

nSrcROIHeight The desired source image ROI height, must be <= oSrcSize.height.

pDstSizeROIMin Host memory pointer to the minimum recommended destination image roi_specification.

pDstSizeROIMax Host memory pointer to the maximum recommended destination image roi_specification.

nRate The upsampling rate to be used. For integer equivalent rates unnecessary source pixels are just skipped. For non-integer rates the source image is bilinear interpolated. nRate must be > 1.0F and <= 10.0F.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.431 NppStatus nppiGradientVectorPrewittBorder_16s32f_C1R (const Npp16s $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f $*$ *pDstX*, int *nDstXStep*, Npp32f $*$ *pDstY*, int *nDstYStep*, Npp32f $*$ *pDstMag*, int *nDstMagStep*, Npp32f $*$ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

1 channel 16-bit signed packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDstX X vector destination_image_pointer.

nDstXStep X vector destination_image_line_step.

pDstY Y vector destination_image_pointer.

nDstYStep Y vector destination_image_line_step.

pDstMag magnitude destination_image_pointer.

nDstMagStep magnitude destination_image_line_step.

pDstAngle angle destination_image_pointer.

nDstAngleStep angle destination_image_line_step.

oSizeROI Region-of-Interest (ROI).

eMaskSize fixed filter mask size to use.

eNorm gradient distance method to use.

eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.432 NppStatus nppiGradientVectorPrewittBorder_16s32f_C3C1R (const Npp16s $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f $*$ *pDstX*, int *nDstXStep*, Npp32f $*$ *pDstY*, int *nDstYStep*, Npp32f $*$ *pDstMag*, int *nDstMagStep*, Npp32f $*$ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

3 channel 16-bit signed packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDstX X vector destination_image_pointer.

nDstXStep X vector destination_image_line_step.

pDstY Y vector destination_image_pointer.

nDstYStep Y vector destination_image_line_step.

pDstMag magnitude destination_image_pointer.

nDstMagStep magnitude destination_image_line_step.

pDstAngle angle destination_image_pointer.

nDstAngleStep angle destination_image_line_step.

oSizeROI Region-of-Interest (ROI).

eMaskSize fixed filter mask size to use.

eNorm gradient distance method to use.

eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.433 NppStatus nppiGradientVectorPrewittBorder_16u32f_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDstX*, int *nDstXStep*, Npp32f ∗ *pDstY*, int *nDstYStep*, Npp32f ∗ *pDstMag*, int *nDstMagStep*, Npp32f ∗ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

1 channel 16-bit unsigned packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDstX X vector destination_image_pointer.

nDstXStep X vector destination_image_line_step.

pDstY Y vector destination_image_pointer.

nDstYStep Y vector destination_image_line_step.

pDstMag magnitude destination_image_pointer.

nDstMagStep magnitude destination_image_line_step.

pDstAngle angle destination_image_pointer.

nDstAngleStep angle destination_image_line_step.

oSizeROI Region-of-Interest (ROI).

eMaskSize fixed filter mask size to use.

eNorm gradient distance method to use.

eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.434 NppStatus nppiGradientVectorPrewittBorder_16u32f_C3C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDstX*, int *nDstXStep*, Npp32f ∗ *pDstY*, int *nDstYStep*, Npp32f ∗ *pDstMag*, int *nDstMagStep*, Npp32f ∗ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

3 channel 16-bit unsigned packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDstX X vector destination_image_pointer.

nDstXStep X vector destination_image_line_step.

pDstY Y vector destination_image_pointer.

nDstYStep Y vector destination_image_line_step.

pDstMag magnitude destination_image_pointer.

nDstMagStep magnitude destination_image_line_step.

pDstAngle angle destination_image_pointer.

nDstAngleStep angle destination_image_line_step.

oSizeROI Region-of-Interest (ROI).

eMaskSize fixed filter mask size to use.

eNorm gradient distance method to use.

eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.435 NppStatus nppiGradientVectorPrewittBorder_32f_C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDstX*, int *nDstXStep*, Npp32f ∗ *pDstY*, int *nDstYStep*, Npp32f ∗ *pDstMag*, int *nDstMagStep*, Npp32f ∗ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

1 channel 32-bit floating point packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDstX X vector destination_image_pointer.

nDstXStep X vector destination_image_line_step.

pDstY Y vector destination_image_pointer.

nDstYStep Y vector destination_image_line_step.

pDstMag magnitude destination_image_pointer.

nDstMagStep magnitude destination_image_line_step.

pDstAngle angle destination_image_pointer.

nDstAngleStep angle destination_image_line_step.

oSizeROI Region-of-Interest (ROI).

eMaskSize fixed filter mask size to use.

eNorm gradient distance method to use.

eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.436 NppStatus nppiGradientVectorPrewittBorder_32f_C3C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDstX*, int *nDstXStep*, Npp32f ∗ *pDstY*, int *nDstYStep*, Npp32f ∗ *pDstMag*, int *nDstMagStep*, Npp32f ∗ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

3 channel 32-bit floating point packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.
pDstX X vector destination_image_pointer.
nDstXStep X vector destination_image_line_step.
pDstY Y vector destination_image_pointer.
nDstYStep Y vector destination_image_line_step.
pDstMag magnitude destination_image_pointer.
nDstMagStep magnitude destination_image_line_step.
pDstAngle angle destination_image_pointer.
nDstAngleStep angle destination_image_line_step.
oSizeROI Region-of-Interest (ROI).
eMaskSize fixed filter mask size to use.
eNorm gradient distance method to use.
eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.437 NppStatus nppiGradientVectorPrewittBorder_8u16s_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDstX*, int *nDstXStep*, Npp16s ∗ *pDstY*, int *nDstYStep*, Npp16s ∗ *pDstMag*, int *nDstMagStep*, Npp32f ∗ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

1 channel 8-bit unsigned packed RGB to optional 1 channel 16-bit signed X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
oSrcSize Source image width and height in pixels relative to pSrc.
oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.
pDstX X vector destination_image_pointer.
nDstXStep X vector destination_image_line_step.
pDstY Y vector destination_image_pointer.
nDstYStep Y vector destination_image_line_step.
pDstMag magnitude destination_image_pointer.
nDstMagStep magnitude destination_image_line_step.
pDstAngle angle destination_image_pointer.
nDstAngleStep angle destination_image_line_step.
oSizeROI Region-of-Interest (ROI).
eMaskSize fixed filter mask size to use.
eNorm gradient distance method to use.
eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.438 NppStatus nppiGradientVectorPrewittBorder_8u16s_C3C1R (const Npp8u $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s $*$ *pDstX*, int *nDstXStep*, Npp16s $*$ *pDstY*, int *nDstYStep*, Npp16s $*$ *pDstMag*, int *nDstMagStep*, Npp32f $*$ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

3 channel 8-bit unsigned packed RGB to optional 1 channel 16-bit signed X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDstX X vector destination_image_pointer.

nDstXStep X vector destination_image_line_step.

pDstY Y vector destination_image_pointer.

nDstYStep Y vector destination_image_line_step.

pDstMag magnitude destination_image_pointer.

nDstMagStep magnitude destination_image_line_step.

pDstAngle angle destination_image_pointer.

nDstAngleStep angle destination_image_line_step.

oSizeROI Region-of-Interest (ROI).

eMaskSize fixed filter mask size to use.

eNorm gradient distance method to use.

eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.439 NppStatus nppiGradientVectorScharrBorder_16s32f_C1R (const Npp16s $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f $*$ *pDstX*, int *nDstXStep*, Npp32f $*$ *pDstY*, int *nDstYStep*, Npp32f $*$ *pDstMag*, int *nDstMagStep*, Npp32f $*$ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

1 channel 16-bit signed packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.
pDstX X vector destination_image_pointer.
nDstXStep X vector destination_image_line_step.
pDstY Y vector destination_image_pointer.
nDstYStep Y vector destination_image_line_step.
pDstMag magnitude destination_image_pointer.
nDstMagStep magnitude destination_image_line_step.
pDstAngle angle destination_image_pointer.
nDstAngleStep angle destination_image_line_step.
oSizeROI Region-of-Interest (ROI).
eMaskSize fixed filter mask size to use.
eNorm gradient distance method to use.
eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.440 NppStatus nppiGradientVectorScharrBorder_16s32f_C3C1R (const Npp16s * *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f * *pDstX*, int *nDstXStep*, Npp32f * *pDstY*, int *nDstYStep*, Npp32f * *pDstMag*, int *nDstMagStep*, Npp32f * *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

3 channel 16-bit signed packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
oSrcSize Source image width and height in pixels relative to pSrc.
oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.
pDstX X vector destination_image_pointer.
nDstXStep X vector destination_image_line_step.
pDstY Y vector destination_image_pointer.
nDstYStep Y vector destination_image_line_step.
pDstMag magnitude destination_image_pointer.
nDstMagStep magnitude destination_image_line_step.
pDstAngle angle destination_image_pointer.
nDstAngleStep angle destination_image_line_step.
oSizeROI Region-of-Interest (ROI).
eMaskSize fixed filter mask size to use.
eNorm gradient distance method to use.
eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.441 NppStatus nppiGradientVectorScharrBorder_16u32f_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDstX*, int *nDstXStep*, Npp32f ∗ *pDstY*, int *nDstYStep*, Npp32f ∗ *pDstMag*, int *nDstMagStep*, Npp32f ∗ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

1 channel 16-bit unsigned packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDstX X vector destination_image_pointer.

nDstXStep X vector destination_image_line_step.

pDstY Y vector destination_image_pointer.

nDstYStep Y vector destination_image_line_step.

pDstMag magnitude destination_image_pointer.

nDstMagStep magnitude destination_image_line_step.

pDstAngle angle destination_image_pointer.

nDstAngleStep angle destination_image_line_step.

oSizeROI Region-of-Interest (ROI).

eMaskSize fixed filter mask size to use.

eNorm gradient distance method to use.

eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.442 NppStatus nppiGradientVectorScharrBorder_16u32f_C3C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDstX*, int *nDstXStep*, Npp32f ∗ *pDstY*, int *nDstYStep*, Npp32f ∗ *pDstMag*, int *nDstMagStep*, Npp32f ∗ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

3 channel 16-bit unsigned packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.
pDstX X vector destination_image_pointer.
nDstXStep X vector destination_image_line_step.
pDstY Y vector destination_image_pointer.
nDstYStep Y vector destination_image_line_step.
pDstMag magnitude destination_image_pointer.
nDstMagStep magnitude destination_image_line_step.
pDstAngle angle destination_image_pointer.
nDstAngleStep angle destination_image_line_step.
oSizeROI Region-of-Interest (ROI).
eMaskSize fixed filter mask size to use.
eNorm gradient distance method to use.
eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.443 NppStatus nppiGradientVectorScharrBorder_32f_C1R (const Npp32f $*$ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f $*$ *pDstX*, int *nDstXStep*, Npp32f $*$ *pDstY*, int *nDstYStep*, Npp32f $*$ *pDstMag*, int *nDstMagStep*, Npp32f $*$ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

1 channel 32-bit floating point packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
oSrcSize Source image width and height in pixels relative to pSrc.
oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.
pDstX X vector destination_image_pointer.
nDstXStep X vector destination_image_line_step.
pDstY Y vector destination_image_pointer.
nDstYStep Y vector destination_image_line_step.
pDstMag magnitude destination_image_pointer.
nDstMagStep magnitude destination_image_line_step.
pDstAngle angle destination_image_pointer.
nDstAngleStep angle destination_image_line_step.
oSizeROI Region-of-Interest (ROI).
eMaskSize fixed filter mask size to use.
eNorm gradient distance method to use.
eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.444 NppStatus nppiGradientVectorScharrBorder_32f_C3C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDstX*, int *nDstXStep*, Npp32f ∗ *pDstY*, int *nDstYStep*, Npp32f ∗ *pDstMag*, int *nDstMagStep*, Npp32f ∗ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

3 channel 32-bit floating point packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDstX X vector destination_image_pointer.

nDstXStep X vector destination_image_line_step.

pDstY Y vector destination_image_pointer.

nDstYStep Y vector destination_image_line_step.

pDstMag magnitude destination_image_pointer.

nDstMagStep magnitude destination_image_line_step.

pDstAngle angle destination_image_pointer.

nDstAngleStep angle destination_image_line_step.

oSizeROI Region-of-Interest (ROI).

eMaskSize fixed filter mask size to use.

eNorm gradient distance method to use.

eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.445 NppStatus nppiGradientVectorScharrBorder_8u16s_C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDstX*, int *nDstXStep*, Npp16s ∗ *pDstY*, int *nDstYStep*, Npp16s ∗ *pDstMag*, int *nDstMagStep*, Npp32f ∗ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

1 channel 8-bit unsigned packed RGB to optional 1 channel 16-bit signed X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDstX X vector destination_image_pointer.

nDstXStep X vector destination_image_line_step.

pDstY Y vector destination_image_pointer.

nDstYStep Y vector destination_image_line_step.

pDstMag magnitude destination_image_pointer.

nDstMagStep magnitude destination_image_line_step.

pDstAngle angle destination_image_pointer.

nDstAngleStep angle destination_image_line_step.

oSizeROI Region-of-Interest (ROI).

eMaskSize fixed filter mask size to use.

eNorm gradient distance method to use.

eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.446 NppStatus nppiGradientVectorScharrBorder_8u16s_C3C1R (const Npp8u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s ∗ *pDstX*, int *nDstXStep*, Npp16s ∗ *pDstY*, int *nDstYStep*, Npp16s ∗ *pDstMag*, int *nDstMagStep*, Npp32f ∗ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

3 channel 8-bit unsigned packed RGB to optional 1 channel 16-bit signed X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDstX X vector destination_image_pointer.

nDstXStep X vector destination_image_line_step.

pDstY Y vector destination_image_pointer.

nDstYStep Y vector destination_image_line_step.

pDstMag magnitude destination_image_pointer.

nDstMagStep magnitude destination_image_line_step.

pDstAngle angle destination_image_pointer.

nDstAngleStep angle destination_image_line_step.

oSizeROI Region-of-Interest (ROI).

eMaskSize fixed filter mask size to use.

eNorm gradient distance method to use.

eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.447 NppStatus nppiGradientVectorSobelBorder_16s32f_C1R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDstX*, int *nDstXStep*, Npp32f ∗ *pDstY*, int *nDstYStep*, Npp32f ∗ *pDstMag*, int *nDstMagStep*, Npp32f ∗ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

1 channel 16-bit signed packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDstX X vector destination_image_pointer.

nDstXStep X vector destination_image_line_step.

pDstY Y vector destination_image_pointer.

nDstYStep Y vector destination_image_line_step.

pDstMag magnitude destination_image_pointer.

nDstMagStep magnitude destination_image_line_step.

pDstAngle angle destination_image_pointer.

nDstAngleStep angle destination_image_line_step.

oSizeROI Region-of-Interest (ROI).

eMaskSize fixed filter mask size to use.

eNorm gradient distance method to use.

eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.448 NppStatus nppiGradientVectorSobelBorder_16s32f_C3C1R (const Npp16s ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDstX*, int *nDstXStep*, Npp32f ∗ *pDstY*, int *nDstYStep*, Npp32f ∗ *pDstMag*, int *nDstMagStep*, Npp32f ∗ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

3 channel 16-bit signed packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.
pDstX X vector destination_image_pointer.
nDstXStep X vector destination_image_line_step.
pDstY Y vector destination_image_pointer.
nDstYStep Y vector destination_image_line_step.
pDstMag magnitude destination_image_pointer.
nDstMagStep magnitude destination_image_line_step.
pDstAngle angle destination_image_pointer.
nDstAngleStep angle destination_image_line_step.
oSizeROI Region-of-Interest (ROI).
eMaskSize fixed filter mask size to use.
eNorm gradient distance method to use.
eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.449 NppStatus nppiGradientVectorSobelBorder_16u32f_C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDstX*, int *nDstXStep*, Npp32f ∗ *pDstY*, int *nDstYStep*, Npp32f ∗ *pDstMag*, int *nDstMagStep*, Npp32f ∗ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

1 channel 16-bit unsigned packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.
nSrcStep Source-Image Line Step.
oSrcSize Source image width and height in pixels relative to pSrc.
oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.
pDstX X vector destination_image_pointer.
nDstXStep X vector destination_image_line_step.
pDstY Y vector destination_image_pointer.
nDstYStep Y vector destination_image_line_step.
pDstMag magnitude destination_image_pointer.
nDstMagStep magnitude destination_image_line_step.
pDstAngle angle destination_image_pointer.
nDstAngleStep angle destination_image_line_step.
oSizeROI Region-of-Interest (ROI).
eMaskSize fixed filter mask size to use.
eNorm gradient distance method to use.
eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.450 NppStatus nppiGradientVectorSobelBorder_16u32f_C3C1R (const Npp16u ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDstX*, int *nDstXStep*, Npp32f ∗ *pDstY*, int *nDstYStep*, Npp32f ∗ *pDstMag*, int *nDstMagStep*, Npp32f ∗ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

3 channel 16-bit unsigned packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDstX X vector destination_image_pointer.

nDstXStep X vector destination_image_line_step.

pDstY Y vector destination_image_pointer.

nDstYStep Y vector destination_image_line_step.

pDstMag magnitude destination_image_pointer.

nDstMagStep magnitude destination_image_line_step.

pDstAngle angle destination_image_pointer.

nDstAngleStep angle destination_image_line_step.

oSizeROI Region-of-Interest (ROI).

eMaskSize fixed filter mask size to use.

eNorm gradient distance method to use.

eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.451 NppStatus nppiGradientVectorSobelBorder_32f_C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDstX*, int *nDstXStep*, Npp32f ∗ *pDstY*, int *nDstYStep*, Npp32f ∗ *pDstMag*, int *nDstMagStep*, Npp32f ∗ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

1 channel 32-bit floating point packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDstX X vector destination_image_pointer.

nDstXStep X vector destination_image_line_step.

pDstY Y vector destination_image_pointer.

nDstYStep Y vector destination_image_line_step.

pDstMag magnitude destination_image_pointer.

nDstMagStep magnitude destination_image_line_step.

pDstAngle angle destination_image_pointer.

nDstAngleStep angle destination_image_line_step.

oSizeROI Region-of-Interest (ROI).

eMaskSize fixed filter mask size to use.

eNorm gradient distance method to use.

eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.452 NppStatus nppiGradientVectorSobelBorder_32f_C3C1R (const Npp32f ∗ *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp32f ∗ *pDstX*, int *nDstXStep*, Npp32f ∗ *pDstY*, int *nDstYStep*, Npp32f ∗ *pDstMag*, int *nDstMagStep*, Npp32f ∗ *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

3 channel 32-bit floating point packed RGB to optional 1 channel 32-bit floating point X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDstX X vector destination_image_pointer.

nDstXStep X vector destination_image_line_step.

pDstY Y vector destination_image_pointer.

nDstYStep Y vector destination_image_line_step.

pDstMag magnitude destination_image_pointer.

nDstMagStep magnitude destination_image_line_step.

pDstAngle angle destination_image_pointer.

nDstAngleStep angle destination_image_line_step.

oSizeROI Region-of-Interest (ROI).

eMaskSize fixed filter mask size to use.

eNorm gradient distance method to use.

eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.453 NppStatus nppiGradientVectorSobelBorder_8u16s_C1R (const Npp8u * *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDstX*, int *nDstXStep*, Npp16s * *pDstY*, int *nDstYStep*, Npp16s * *pDstMag*, int *nDstMagStep*, Npp32f * *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

1 channel 8-bit unsigned packed RGB to optional 1 channel 16-bit signed X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDstX X vector destination_image_pointer.

nDstXStep X vector destination_image_line_step.

pDstY Y vector destination_image_pointer.

nDstYStep Y vector destination_image_line_step.

pDstMag magnitude destination_image_pointer.

nDstMagStep magnitude destination_image_line_step.

pDstAngle angle destination_image_pointer.

nDstAngleStep angle destination_image_line_step.

oSizeROI Region-of-Interest (ROI).

eMaskSize fixed filter mask size to use.

eNorm gradient distance method to use.

eBorderType source image border type to use use.

Returns:

Image Data Related Error Codes, ROI Related Error Codes

7.11.2.454 NppStatus nppiGradientVectorSobelBorder_8u16s_C3C1R (const Npp8u * *pSrc*, int *nSrcStep*, NppiSize *oSrcSize*, NppiPoint *oSrcOffset*, Npp16s * *pDstX*, int *nDstXStep*, Npp16s * *pDstY*, int *nDstYStep*, Npp16s * *pDstMag*, int *nDstMagStep*, Npp32f * *pDstAngle*, int *nDstAngleStep*, NppiSize *oSizeROI*, NppiMaskSize *eMaskSize*, NppiNorm *eNorm*, NppiBorderType *eBorderType*)

3 channel 8-bit unsigned packed RGB to optional 1 channel 16-bit signed X (vertical), Y (horizontal), magnitude, and/or 32-bit floating point angle gradient vectors with user selectable fixed mask size and distance method with border control.

Parameters:

pSrc Source-Image Pointer.

nSrcStep Source-Image Line Step.

oSrcSize Source image width and height in pixels relative to pSrc.

oSrcOffset The pixel offset that pSrc points to relative to the origin of the source image.

pDstX X vector destination_image_pointer.

nDstXStep X vector destination_image_line_step.

pDstY Y vector destination_image_pointer.

nDstYStep Y vector destination_image_line_step.

pDstMag magnitude destination_image_pointer.

nDstMagStep magnitude destination_image_line_step.

pDstAngle angle destination_image_pointer.

nDstAngleStep angle destination_image_line_step.

oSizeROI Region-of-Interest (ROI).

eMaskSize fixed filter mask size to use.

eNorm gradient distance method to use.

eBorderType source image border type to use use.

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

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