See Also

See the **Loess**, **MatrixConvolve**, and **MatrixFilter** operations for true 2D smoothing.

FilterFIR, **FilterIIR**, **Loess**, **Interpolate2**

Also see the "Smooth Operation Responses" example experiment.

SmoothCustom

SmoothCustom [**/E=*endEffect***] ***coefsWaveName*, *waveName*** [**, *waveName***]…

Note: SmoothCustom is obsolete. Use the **FilterFIR** operation instead. For multidimensional data use the **MatrixConvolve** or **MatrixFilter** operations.

The SmoothCustom operation smooths waves by convolving them with *coefsWaveName*.

Parameters

coefsWaveName must be single or double floating point, must not be one of the destination *waveName*s, must not be complex.

waveName is a numeric destination wave that is overwritten by the convolution of itself and *coefsWaveName*.

Flags

/E=*endEffect* End effect method, a value between 0 and 3. See the **Smooth** operation for a description of the /E flag.

Details

The convolution is in the time domain. That is, the FFT is not employed. For this reason the length of *coefsWaveName* should be small or small in comparison to the destination waves.

SmoothCustom presumes that the middle point of *coefsWaveName* corresponds to the delay = 0 point. The "middle" point number = trunc(numpnts(*coefsWaveName*-1)/2). *coefsWaveName* usually contains the two-sided impulse response of a filter, and contains an odd number of points. This is the type of wave created by FilterFIR.

SmoothCustom ignores the X scaling of all the waves.

The SmoothCustom operation is not multidimensional aware. See **Analysis on Multidimensional Waves** on page II-95 for details.

Sort

Sort [**/A /DIML /C /R**] ***sortKeyWaves*, *sortedWaveName*** [**, *sortedWaveName***]…

The Sort operation sorts the *sortedWaveName*s by rearranging their Y values to put the data values of *sortKeyWaves* in order.

Parameters

sortKeyWaves is either the name of a single wave, to use a single sort key, or the name of multiple waves in braces, to use multiple sort keys.

All waves must be of the same length.

The *sortKeyWaves* must not be complex.

Flags

/A[=*a*] Alphanumeric sort. When *sortKeyWaves* includes text waves, the normal sorting places "wave1" and "wave10" before "wave9".

The optional *a* parameter requires Igor Pro 7.00 or later.

Use /A or /A=1 to sort the number portion numerically, so that "wave9" is sorted before "wave10".

Use /A=2 to ignore + and - characters in the text so that "Text-09" sorts before "Text-10".