Choose Analysis→Smooth to see the Smoothing dialog.

Depending on the smoothing algorithm chosen, there may be additional parameters to specify in the dialog.

Built-in Smoothing Algorithms

Igor has numerous built-in smoothing algorithms for 1-dimensional waveforms, and one that works with the **XY Model of Data** on page II-63:

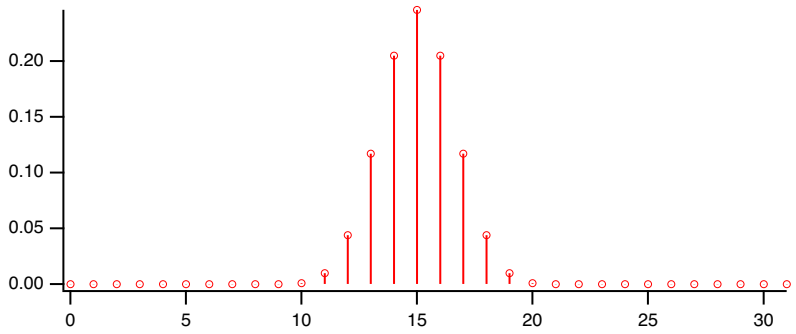
Algorithm	Operation	Data
Binomial	**Smooth**	1D waveform
Savitzky-Golay	**Smooth**/S	1D waveform
Box (Average)	**Smooth**/B	1D waveform
Custom Smoothing	**FilterFIR**	1D waveform
Median	**Smooth**/M	1D waveform
Percentile, Min, Max	**Smooth**/M/MPCT	1D waveform
Loess	**Loess**	1D waveform, XY 1D waves, false-color images*, matrix surfaces*, and multivariate data*.

* The Loess operation supports these data formats, but the Smooth dialog does not provide an interface to select them.

The first four algorithms precompute or apply one set of smoothing coefficients according to the smoothing parameters, and then replaces each data wave with the convolution of the wave with the coefficients.

You can determine what coefficients have been computed by smoothing a wave containing an impulse. For instance:

```
Make/O/N=32 wave0=0; wave0[15]=1; Smooth 5,wave0    // Smooth an impulse
Display wave0; ModifyGraph mode=8,marker=8          // Observe coefficients
```



Compute the FFT of the coefficients with magnitude output to view the frequency response. See **Finding Magnitude and Phase** on page III-274.

The last two algorithms (the **Smooth**/M and **Loess** operations) are not based on creating a fixed set of smoothing coefficients and convolution, so this technique is not applicable.

Smoothing Demo

For a demo of various smoothing techniques, choose Files→Example Experiments→Feature Demos→Smooth Curve Through Noise.