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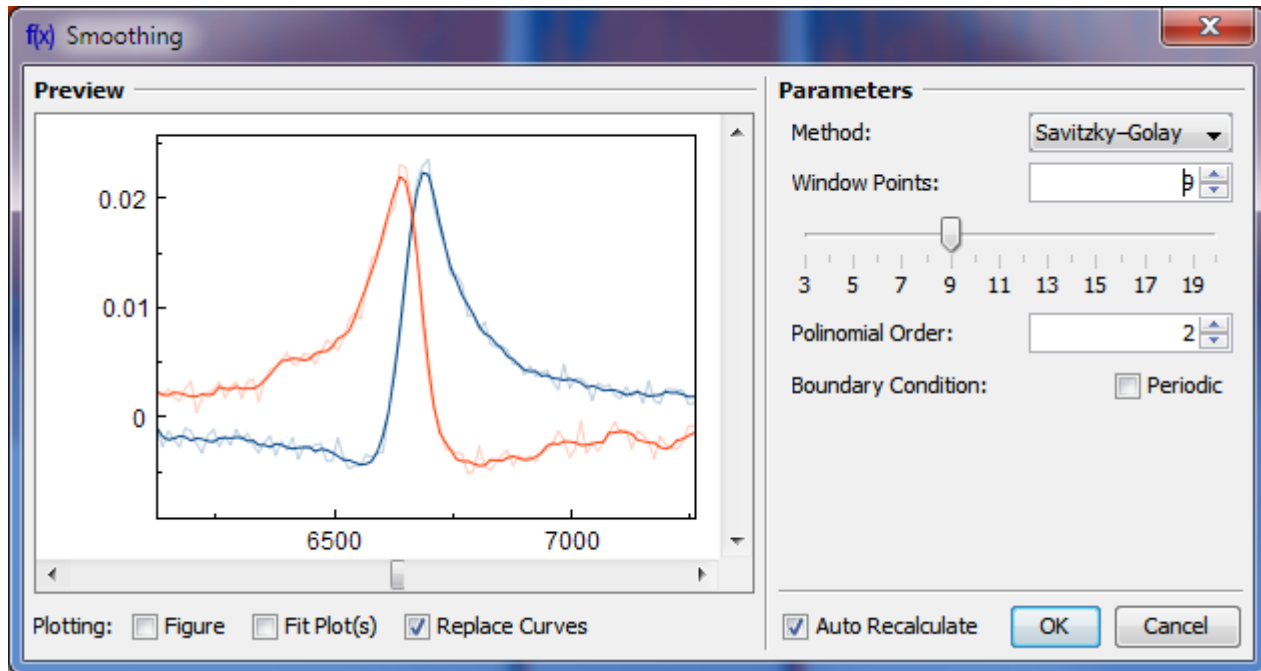
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# Smoothing (Pro edition only)

Open Table or Figure or Fit Plot with initial data and select Processing → Smooth menu item. The opened processing dialog shows parameters, initial curves (semi-transparent) and smoothed preview.



## Parameters

Periodic checkbox applies on calculation of first and last  $p/2$  points. When it is set MagicPlot will take missing values from the opposite end (as if the signal is periodic) to calculate first and last  $p/2$  points.

## Algorithms

Two algorithms are available: Central Moving Average and [Savitzky-Golay method](#).

### Central Moving Average

Each value  $A_k$  is replaced with  $p$ -points average:

$$A_k = \frac{1}{p} \sum_{i=k-p/2}^{k+p/2} a_i$$

If Periodic checkbox is not set the first and last  $p/2$  points are calculated with the same symmetrical formula but with less summands.

## Savitzky-Golay Filter

A Savitzky-Golay filter essentially performs a local polynomial regression on a series of equally spaced data points. Each data point value is replaced with local polynomial value at this point.

If `Periodic` checkbox is not set, MagicPlot will repeat the values of the first and last points to calculate a polynomial for the first and last  $p/2$  points.

## See Also

- [Data Processing and Auto Recalculation](#)

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