




Graph Line Filtering in ProAnalyst®

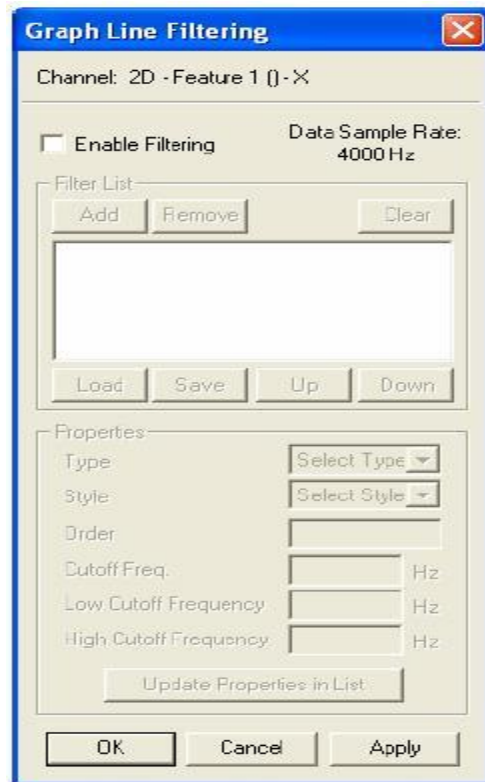
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Abstract

By default, ProAnalyst does not apply any smoothing or filtering operations to display tracking or sensor data in favor of displaying raw, unaltered data whenever possible. If any smoothing or noise removal is necessary, a series of filters can be easily applied to any graphed sensor or tracking information.

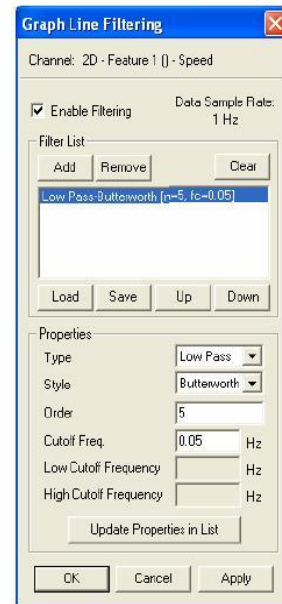
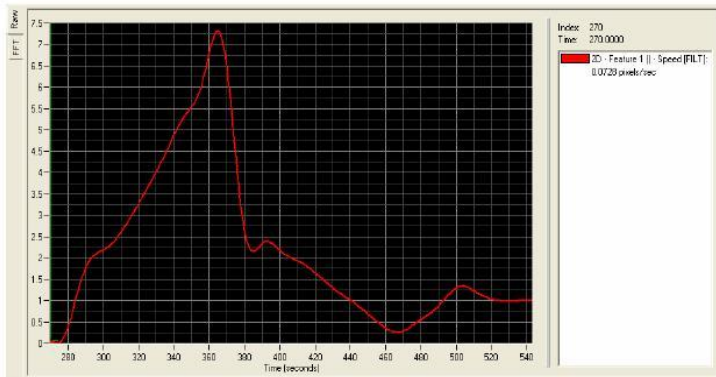
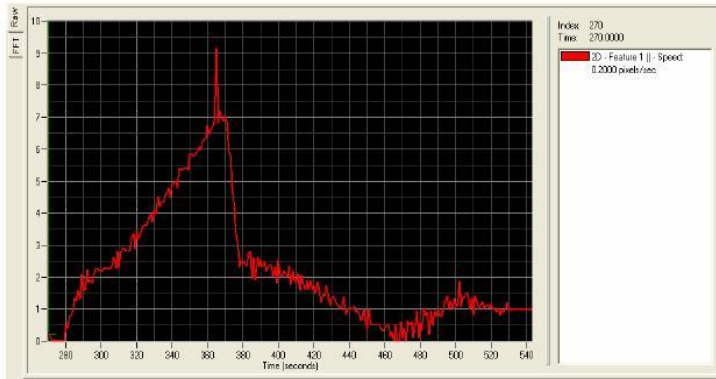
Example

1. Data filtering options are available via a pop-up dialog in the **Graph Configuration** palette. The Graph Configuration palette contains a list of displayed graph lines. Each graph line listing contains the item number, item description, line color, visibility, and filter settings. The filtering options for a given line can be accessed through the **Graph Line Filtering** window, accessible by clicking on the Filter Settings  icon in the last column.
2. To add a filter, select the graph line that the filter is going to be added to and open the Graph Line Filtering window as shown below:



3. Click the **Add** button to add a new Empty Filter item to the filter list. Click on the Empty Filter item to select it.
4. With the Empty Filter item active, select a filter type to use in the Type drop-down menu. For example, a Low Pass filter is the most commonly applied for the purpose of eliminating pixel noise in tracking results. For a list of other available filter types, refer to Chapter 4: Analysis in the ProAnalyst User Guide.
5. After selecting a filter Type, the filter Style drop-down menu may become active. If this happens, select a filter Style from the menu. To continue with the above example using a Low Pass filter, select the **Butterworth** option from the Style menu.
6. After specifying a filter Type and Style, other filter properties may become active and can be modified. When a Low Pass filter is active for example, the Order and Cutoff Freq. fields are activated.
7. If any filter properties are modified, click the **Update Properties in List** button to confirm the changes. The updated values will be displayed in the Filter list.
8. Additional filters can be added to a channel by repeating the previous sequence of steps. Filters will be applied to a channel in the order in which they were added. When all filters have been applied and modified, click the **Apply** button followed by the **OK** button.

9. Below is an example of a graph line before and after the Low Pass filter was applied to remove pixel noise from the tracking results, as well as the filter settings that were used to smooth the graph line.



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