Process Description:

The kinetic analysis of speckles consists of two steps. First, birth and death events are classified to be associated with either polymerization or depolymerization events. Then kinetic scores are assigned to each polymerization/depolymerization and artifacts are removed by temporal averaging. The output of the kinetic analysis process is a series of polymer turnover maps.

Parameter Descriptions:

Input Channels:

This allows you to select which channels you want to perform kinetic analysis on. This should be applied to all channels that are going to be used for calculating the noise parameters. Select the channels by clicking on them in the "Available Input Channels" box and then clicking "Select>" to move them to the "Selected Channels" box. You can unselect a channel by clicking the "Delete" button

Bleaching reduction (for expert users):
This parameter is used to correct for the effect of photobleaching. Its value determines the threshold used to discriminate weak scores due to bleaching from scores related to polymer turnover.

Sigma for low-pass filtering (pixels) :
Polymerization and depolymerization maps are created by applying a low-pass Gaussian filter to each birth and death event. This value sets the standard deviation of the Gaussian filter.

Number of frames for time averaging:
This value determines the number of frames over which the birth and death events should be averaged. Note that the number of frames for time averaging must be odd.