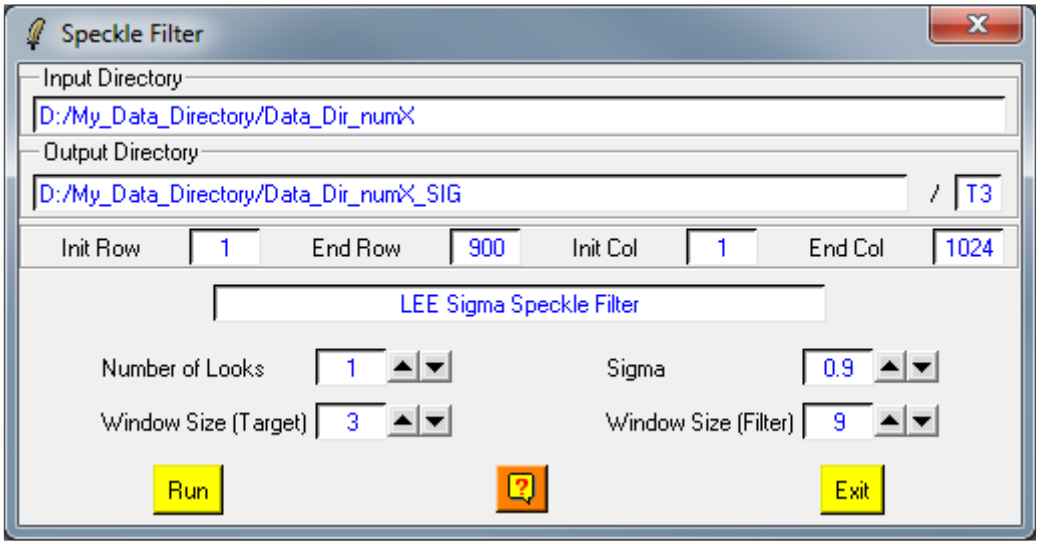
J.S. Lee Sigma Speckle Filter



Description:

This function is used to apply a Polarimetric Speckle filtering on polarimetric raw binary data.
The proposed polarimetric Speckle Filetr is :

- J.S. Lee Sigma filter.

According to the input data format, indicated in the widget, different compatible output data formats are proposed according the following table:

Input Data Format	Output Data Format
(2x2) Sinclair matrix [S2]	[T3]
(3x3) Coherency matrix [T3]	[T3]
Dual Polarimetric Elements (Sxx, Sxy)	[C2]
(2x2) Covariance matrix [C2]	[C2]

Comments:

Parameters written in Red can be modified directly by the user from the keyboard.

Input/Output Arguments:

Input Directory	Indicates the location of the considered **Main Directory (MD)** containing the polarimetric data sets to be filtered.
Output Directory	Indicates the location of the filtered data output directory. The default value is set automatically to : **Main Directory_SIG / YY**. where **YY** is associated with the Output Data Format (**C2** or **T3**).

Output Image Number of Rows/Columns:

The output image numbers of rows and columns are initialised to the input data set dimensions.

Users wishing to process a sub-part of the initial image can modify the **Init** and **End** values of the converted images rows and columns.

Note: init and end values have to remain within the range defined by the input image dimensions.

Filtering Parameters:

Number of Looks	Users have to set the Input data equivalent number of looks used to compute the a priori input speckle noise variance. The default value of N is set to **1**.
Window size (target)	Users have to set the size of the (N*N) sliding window used to detect bright point target, compute the MMSE and fix the Sigma Range The default value of N is set to 3.
Sigma	Sigma value
Window size (filter)	Users have to set the size of the (N*N) sliding window used to compute the local estimate of the average matrix. The default value of N is set to 9.

Reference

"*Improved Sigma Filter for Speckle Filtering of SAR imagery*", J.S. Lee, J.H Wen, T. Ainsworth, K.S Chen, A.J Chen, IEEE GRS Letters - 2008