



Baseline Estimation

The screenshot shows the 'POLinSAR Baseline Estimation' window. It contains several input fields and sections:

- Input Master Directory:** C:/Adelaide_Master
- Input Slave Directory:** C:/Adelaide_Slave_COR
- Output Slave Directory:** C:/Adelaide_Slave_COR
- Init Row:** 1, **End Row:** 18432, **Init Col:** 1, **End Col:** 1536
- Baseline Estimation:**
 - Radio buttons: ☒ ALOS (JAXA), ☐ ALOS (ERSDAC), ☐ RADARSAT-2, ☐ TerraSAR-X
 - Averaged Estimated Baseline Values:**
 - Parallel: -305.8
 - Perpendicular: -78.99
 - Horizontal: -185.3
 - Vertical: 255.72
 - Run** button
- Auxiliary Parameter Estimation:**
 - Checkboxes: ☒ Flat Earth, ☒ kz, ☒ Incidence Angle (deg)
- Output Format:**
 - Radio buttons: ☒ real (deg), ☐ real (rad), ☐ cmplx (cos, sin)
- Run**, **Exit**, and a help icon button at the bottom.

Description:

This function calculates a precise estimation of the different baselines from the knowledge of the states vectors associated to the $2 \times (2 \times 2)$ complex Sinclair [S2] raw binary data elements.

Different auxiliary parameters, like the Flat Earth, the kz parameter or the incident angle, can then be estimated and derived.

Comments:

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

Input/Output Arguments:

Input Master Directory	Indicates the location of the considered Master Main Directory (M-MD) containing the polarimetric data sets to be processed.
Input Slave Directory	Indicates the location of the considered Slave Main Directory (S-MD) containing the polarimetric data sets to be processed.
Output Slave Directory	Indicates the location of the processed data output directory. The default value is set automatically to : Slave-Main Directory (S-MD) .

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.

Baseline Estimation:

Users have to select the sensor on which will be applied the baseline estimation procedure

Averaged Estimated Baseline Values

Display the four estimated baselines averaged over the track duration. The four estimated baselines are:

- The horizontal baseline
- The vertical baseline
- The parallel baseline
- The perpendicular baseline

Auxiliary Parameter Estimation:

Users have to select between different auxiliary parameters that are: the flat Earth, the kz parameter or the radar incidence angle

Output Format Indicates the type of output data.

- **Real (deg)** : 4 bytes real data in degrees.
 - **Real (rad)** : 4 bytes real data in radians.
 - **Cmplx (cos,sin)** : 4 bytes interlaced real and imaginary parts.
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