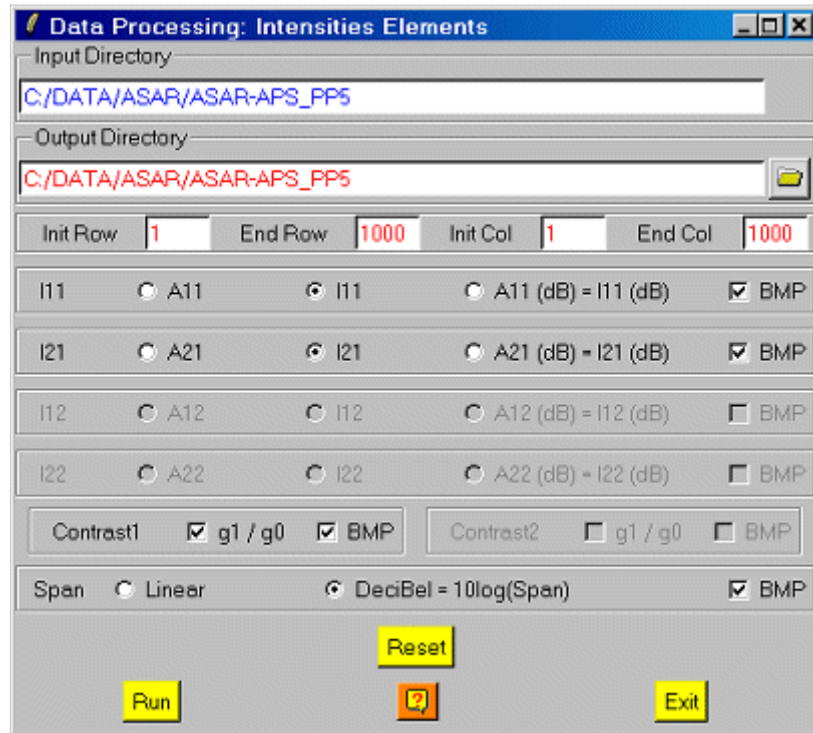# Intensities Elements Processing

Description:

Creates binary files corresponding to real (Intensity) Partial Polarimetric raw binary data.

An option may be set to simultaneously create the corresponding bitmap image files.

An Intensity Partial Polarimetry **[PPx]** representation consists of two polarimetric channels acquired in a reduced polarimetry configuration.

PPx binary data files have to be located in a **PPx directory** located at the same level than a **MainDirectory** directory and described by a text configuration file, as follows.

Main Directory (PP5 type)
- MD /.
- MD / config.txt
- MD / I11.bin
- MD / I21.bin

Main Directory (PP6 type)
- MD /.
- MD / config.txt
- MD / I12.bin
- MD / I22.bin

Main Directory (PP7 type)
- MD /.
- MD / config.txt
- MD / I11.bin
- MD / I22.bin

Comments:

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

Input/Output Arguments:

Input Directory Indicates the complete location of the considered **MainDirectory (MD)** containing the Intensity Partial Polarimetric binary raw data to be processed.

Output Directory Indicates the location of the processed data output directory. The default value is set automatically to the **MainDirectory (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.

Selection of the Channels to be Processed:

Several channels may be processed at a time. The selection of the BMP options enables the creation of output bmp files.

Users may choose between three types of output binary data :

- Aij : Linear representation of the considered element amplitude. Ouput file name : Aij.bin (.bmp)
- Iij : Linear representation of the considered element intensity. Ouput file name : Iij.bin (.bmp)
- Aij (dB) = Iij (dB) : Element intensity in dB = $10\log10(Iij)$ = $20\log10(Aij)$. Ouput file name : Iij_dB.bin (.bmp)

- Contrast : Linear representation of the Polarisation Contrast (ratio between the two Stokes parameters g1 and g0). Ouput file name : Contrast1(or 2).bin (.bmp)

- Span : (Wave Power in the Partial Polarimetric case), correspond to the sum of the two intensities, may also be processed (linear and dB) using this program.

⚠ In the *pp7 mode,* the contrast corresponding to the combination I11 / I22 can not be processed because these elements do not correspond to a Jones vector definition.