

Command                      AIMAGE

**PURPOSE**                      Create linear image of analyzer

**PARAMETERS**

AIN                              Name of source analyzer  
/Destination(c)                Name of destination analyzer  
/MX(c)                        For 1-dim. analyzer: First line of image matrix ( $a_x, m_x$ )  
                                    For 2-dim. analyzer: First line of image matrix ( $a_x, m_{xx}, m_{xy}$ )  
/MY(c)                        Only for 2-dim. analyzer: Second line of image matrix ( $a_y, m_{yx}, m_{yy}$ )

**FUNCTION**                      Performs a linear matrix operation of the coordinates of an analyzer.  
                                    The result is written to the destination analyzer.  
                                    For 1-dim. analyzers:  $x_i^{dest} = m_x \times (x_i^{source} + a_x)$   
                                    For 2-dim. analyzers: 
$$\begin{pmatrix} x_i^{dest} \\ y_i^{dest} \end{pmatrix} = \begin{pmatrix} m_{xx} & m_{yx} \\ m_{xy} & m_{yy} \end{pmatrix} \times \begin{pmatrix} x_i^{source} + a_x \\ y_i^{source} + a_y \end{pmatrix}$$

**REMARK**                        Source and destination analyzers may have different limits and bin sizes. If the destination analyzer does not exist, it is created by this command.

**EXAMPLE**                        AIMAGE AIN / DEST(AOUT) MX(0, 2, 0) MY(0, 0, 1)  
                                    Stretch the x channels of the 2-dim. input analyzer AIN by a factor of 2 and store the result in AOUT.

                                    AIMAGE AIN / DEST(AOUT) MX(0, 1, 0) MY(0, 1, 1)  
                                    Let the x channels unchanged and determine each y channel as the sum of the x and y channel of the input analyzer.