ImageFocus

ImageFocus [***flags***] ***stackWave***

The ImageFocus operation creates in focus image(s) from a stack of images that contain in and out of focus regions. It computes the variance in a small neighborhood around each pixel and then takes the pixel value from the plane in which the highest variance is found.

Flags

/ED=*edepth*	Sets the effective depth in planes. For example, an effective depth of one means that it computes the best focus for each plane using a stack of three planes, which includes the current plane and any one adjacent plane above and below it. Does not affect the default method (/METH=0).
/METH=*method*	Specifies the calculation method. *method*=0: Computes a single plane output for the stack (default). *method*=1: Computes the best image for each plane using /ED.
/Q	Quiet mode; no output to history area.
/Z	No error reporting.

See Also

Chapter III-11, **Image Processing** contains links to and descriptions of other image operations.

ImageFromXYZ

ImageFromXYZ [*flags*] *xyzWave*, *dataMatrix*, *countMatrix*

ImageFromXYZ [*flags*] {*xWave*,*yWave*,*zWave*}, *dataMatrix*, *countMatrix*

ImageFromXYZ converts XYZ data to matrix form. You might use it, for example, to convert a "sparse matrix" to an actual matrix for easier display and processing.

You provide the input data in the XYZ triplet *xyzWave* or in 1D waves *xwave*, *ywave*, and *zwave*.

dataMatrix and *countMatrix* receive output data but you must create them prior to calling ImageFromXYZ.

For each XY location in the input data, ImageFromXYZ adds the corresponding Z value to an element of *dataMatrix*. The element is determined based on the input XY location and the X and Y scaling of *dataMatrix*.

For each XY location in the input data, ImageFromXYZ increments the corresponding element of *countMatrix*. This permits you to obtain an average Z value if multiple input values fall into a given element of *dataMatrix*.

Parameters

xyzWave is a triplet wave containing the input XYZ data.

xWave, *yWave* and *zWave* are 1D input waves containing XYZ data.

You specify either *xyzWave* by itself or *xWave*, *yWave* and *zWave* in braces.

dataMatrix is a 2D wave to which the Z values are added. It must be either single-precision or double-precision floating point. The X and Y scaling of *dataMatrix* determines how input values are mapped to output matrix elements.

countMatrix is a 2D wave the elements of which store the number of Z values added to each corresponding element of *dataMatrix*. ImageFromXYZ sets it to 32-bit integer if it is not already so.

Flags

/AS	If /AS (autoscale) is specified, ImageFromXYZ clears both *dataMatrix* and *countMatrix* and sets the X and Y scaling of *dataMatrix* based on the range of X and Y input values.

Details

For each point in the XYZ input data, ImageFromXYZ adds the Z value to the appropriate element of *dataMatrix* and increments the corresponding element of *countMatrix*. Normally you will clear *dataMatrix* and *countMatrix* before calling it.