Chandra X-ray Center

URL: http://cxc.harvard.edu/ciao3.4/bugs/reproject_image_grid.html
Last modified: 10 October 2007

Bugs: reproject_image_grid

Caveats

1. ***Setting the `pixelsize` to a value in arcseconds***

   If you are setting the `reproject_image_grid` `pixelsize` parameter to a value in arcseconds, you have to specify it when the tool is run, not via `pset`.

   A feature in the CIAO parameter interface causes double quotes (") to be converted to single quotes (') when they are written to the parameter file:

   ```
   unix% pset reproject_image_grid pixelsize='1"'
   unix% pget reproject_image_grid pixelsize
   1'
   ```

   Supplying the `pixelsize` on the command line when the tool is run ensures that the value will be correctly interpreted as arcsec, e.g.

   ```
   unix% reproject_image_grid pixelsize='1"'
   Input image file name (@expmaps.lis):
   .. etc. ..
   ```

   The value is also correctly recorded in the history of the output file:

   ```
   unix% dmhistory sn1006_expmap.fits reproject_image_grid
   reproject_image_grid infile="@list_of_expmaps.lis" outfile="sn1006_expmap.fits"
   xsize="2500" ysize="2500" xcenter="225.7" ycenter="-41.9" theta="0" pixelsize="1""
   projection="tan" resolution="1" method="average" coord_sys="world"
   lookupTab="/soft/ciao/data/dmmerge_header_lookup.txt" clobber="yes" verbose="0"
   ```

2. ***The `method` parameter: sum vs. average (01 Dec 2006)***

   There has been some confusion over how to set the `method` parameter when running this tool. Typically users will use `sum` to reproject the COUNTS image and will use `average` to reproject the EXPOSURE image when making fluxed images.

   When the `method` parameter is set to `sum`, each input image is reprojected to the specified grid using the `sum` method. If more than one image is input, i.e. a stack of files is given, the combined image is the sum of the individually reprojected files.

   For example, suppose that a 4x4 pixel area in the input corresponds to 1 pixel in the output. Then if the typical input pixel has a value of 1000, the typical output pixel in the intermediate file would have a value of 16000 (the sum of the input pixel values), rather than 1000 (the average of all the input pixel values).

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60 Garden Street, Cambridge, MA 02138 USA.

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