![Chandra X-ray Center logo]

Bugs: reproject_image

Caveats

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

   There has been some confusion over how to set the <u>method</u> 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 `average`, each input exposure map is reprojected to match the <u>matchfile</u> using the `average` method. If more than one exposure map is input, i.e. a stack of files is given, the combined exposure image is the sum of the individually reprojected exposure maps.

   For example, suppose that the match image is blocked by four relative to the input exposure map, so that a 4x4 pixel area in the input corresponds to 1 pixel in the output. Then if the typical input exposure pixel has a value of 1000, the typical output exposure pixel in the intermediate map would also have a value of 1000 (the average of all the input pixel values), rather than 16000 (the sum of the input pixel values).

   This is the desired behavior, since the exposure is an absolute value and not an integral over area; the flux–conserving `method=sum` appropriate for the image counts is not appropriate for the exposure maps. If there are three such maps in the input stack, the typical pixel in the final output will then be 3000 (summing the regridded inputs) rather than 48000 (both summing during the regridding and then summing the results).

Bugs

1. *`reproject_image` will produced incorrect results if the WCS in the file is defined as (DEC,RA) instead of (RA,DEC).*

   This is the case for some HST data.