



## PSF Libraries

The Chandra PSFs vary strongly with source location in the telescope field of view, as well as somewhat with the energy, and so with the spectrum of the source. Standard sets of simulated Chandra PSFs covering the field of view of the ACIS and HRC detectors are available via the standard PSF library files.

The CIAO tool `mkpsf` reads one of these libraries (at the users choice) and interpolates to estimate the PSF at the requested location and energy (see the Create a PSF thread). Naturally this interpolation is more accurate for the finer grids.

There are 4 standard PSF libraries provided per instrument:

### Medium res library (file No. 1)

1 arcmin step size between images. 6 micron pixel images.

Grid about the optical axis covering:

Detector	Grid
ACIS-I and HRC-I	a -10 to +10 arcmin square grid (21x21)
ACIS-S and HRC-S	a -10 to +10 arcmin in azimuth and -5 to +5 arcmin in elevation grid (21x11)

### Low res library (file No. 2)

5 arcmin step size between images. 12 micron pixel images.

Grid about the optical axis covering:

Detector	Grid
ACIS-I	a -25 to +10 arcmin in elevation and -10 to +10 arcmin in azimuth (8x5) grid
ACIS-S	a -25 to +25 arcmin in azimuth and -5 to +5 arcmin in elevation (11x3) grid
HRC-I	a -25 to +25 arcmin in elevation and -25 to +25 arcmin in azimuth (11x11) grid
HRC-S	a -30 to +30 arcmin in azimuth and -5 to +5 arcmin in elevation (13x3) grid

### High res library (file No. 3)

1 arcmin step size between images. 2 micron pixel images.

Grid covering a -6 to +6 arcmin (11x11) in azimuth and elevation about the optical axis.

## Dictionary Entry - CIAO 3.4

### High res library (file No. 4)

1 arcmin step size between images. 1 micron pixel images.  
Grid covering a -1 to +1 arcmin (3x3) about the optical axis.

The ACIS pixel size is 24 microns and the HRC pixel size is 6.4294 microns.

See also:

- [PSF Manual](#) (ps)
- The Cal groups [HRMA PSF Page](#)

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