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## Chandra Ray Tracer (ChaRT)

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The Chandra Ray Tracer (ChaRT) – the Chandra PSF simulator – is a web interface to the SAOSac raytrace code which was developed by the CXC for calibration purposes. ChaRT traces rays through the Chandra X-ray optics to produce a collection of rays. The rays are then projected onto the detector (via MARX), taking into account any detector effects. The result is an event file from which an image of the point spread function may be created.

Since Chart runs the same code that is used internally at the CXC for calibration, it gives the best available HRMA PSF for a point source at any off-axis angle and for any energy or spectrum. Technical details are available from the ChaRT description page.

Why should you use ChaRT instead of the standard PSFs libraries? The ChaRT Compared to PSF Libraries page explains why ChaRT is the recommended method.

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### Browser Compatibility

There is a known problem when running ChaRT from Safari, Mozilla Firefox version 1.5x and other Mozilla browsers. Details and a workaround are available from the Bug List, but it is recommended that users run ChaRT from another browser if possible.

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### Citing ChaRT in a Publication

If you are writing a paper and would like to cite ChaRT, we recommend the following paper:

***ChaRT: The Chandra Ray Tracer***

C. Carter, et al.

ADASS XII ASP Conference Series, Vol. 295, 2003, p.477

The specific version of CIAO and CALDB (if applicable) used for the analysis should be mentioned as well.

Welcome to ChaRT