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## ChaRT: The Chandra Ray Tracer

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ChaRT is a Chandra PSF simulator. It is a web interface to the SAOsac raytrace code which was developed by the CXC for calibration purposes. In addition to the most current mirror model, SAOsac (and ChaRT) includes many of the details of the HRMA's physical construction such as the stray light baffles and support structures as well as a detailed model of the reflective properties of the mirror surface. ChaRT uses the trace-nest3 driver script, and several other SAOsac routines. This software includes the multi-layer reflectivity and uses the HRMA model configuration file. More information on the configurations is available from this database.

See the ChaRT webpage for more information.

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The HRMA model includes:

- a new set of mirror surface scattering coefficients
- a new set of optical constants, derived from synchrotron results including a contamination layer on the witness flats
- modeling of the optics' surfaces as multi-layers
- inclusion of an extra tilt in mirror shell 6, as determined from testing at the XRCF

For further details on SAOsac code and the history see "Running Raytraces."

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URL:  
<http://cxc.harvard.edu/ciao3.4/dictionary/chart.html>  
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## Dictionary Entry - CIAO 3.4