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## About ChaRT

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With the combination of ChaRT and MARX, users may now easily perform simulations of the Chandra PSF. However, these pieces of software have limitations of which users should be aware. It is very important to read the [ChaRT caveats](#) before running ChaRT and before starting any analysis using the resulting PSF simulations.

The following are some technical details on how ChaRT operates. It is not necessary to understand the internals in order to run ChaRT, but advanced users may be interested in reviewing this information.

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ChaRT is the 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](#) (`orbit_XRCF+tilts+ol_01`). More information on the configurations is available [from the Raytrace Configurations database](#).

For further details on SAOsac code and its history, see the [Running Raytraces page](#).

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URL:  
<http://cxc.harvard.edu/chart/description.html>  
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## ChaRT Description