

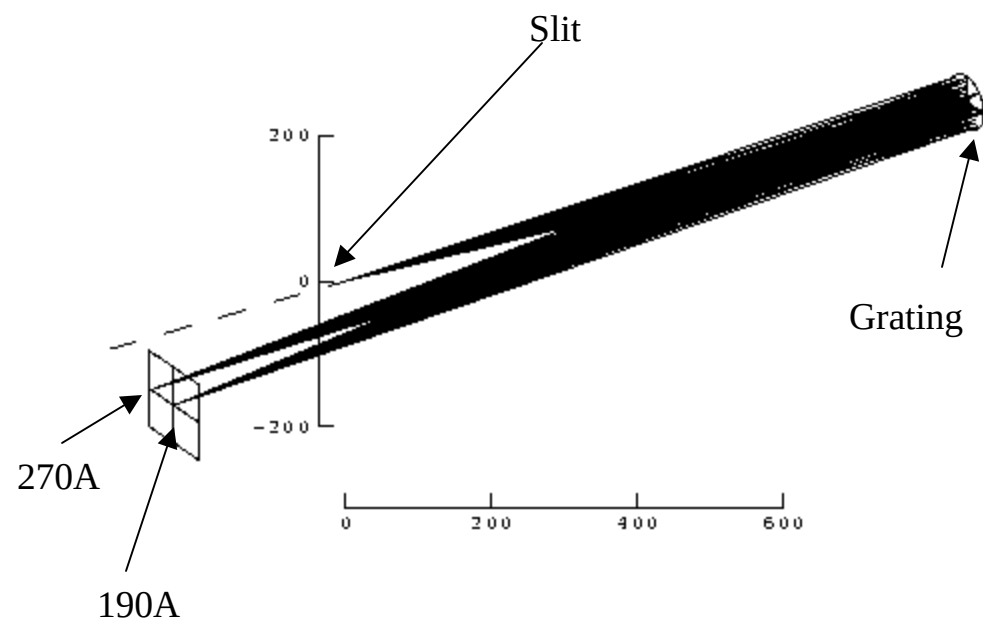
EIS Design Optimization Criteria

- Overall Length < 3 meters
- Overall Width < 0.5m
- Telescope Mirror Diameter 150mm
- Plate scale 1 arc-sec/pixel spatial
 - 13.5 micron pixels
- Two Wavelength Bands of 40 Å width
 - Short Wavelength Centered at 190Å
 - Long Wavelength Centered at 270Å
- Two Detectors cover 40Å each
- 4800 l/mm grating- Single Ruling Density
 - Half ML Coated for 190Å
 - Half ML Coated for 270Å
- Detector Must Clear Input Path (etc.)

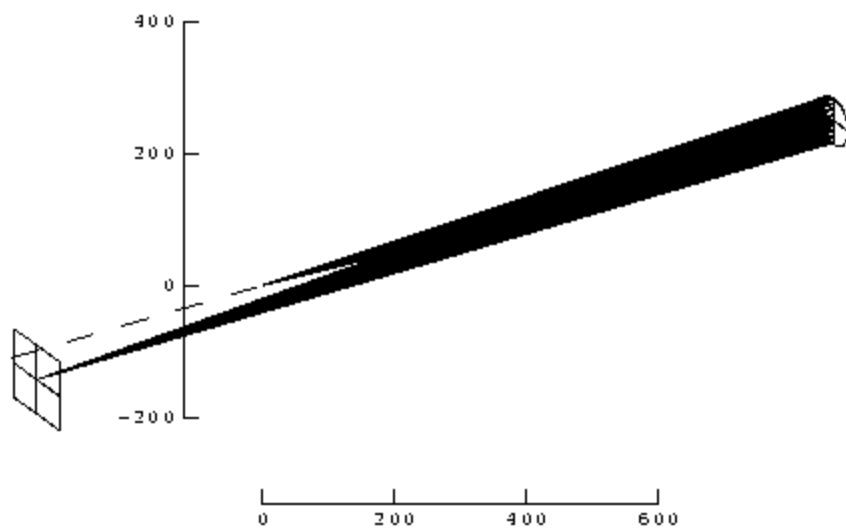
EIS-7Tr Design Heritage

- Trendy: Paraboloid Telescope
 - Only two reflections
- SERTS: Toroidal Grating
- J-PEX: Laminar Rulings
- EIS & Trace: Sectorized Multilayer Coatings
- Sumer: Primary Mirror Scan Concept

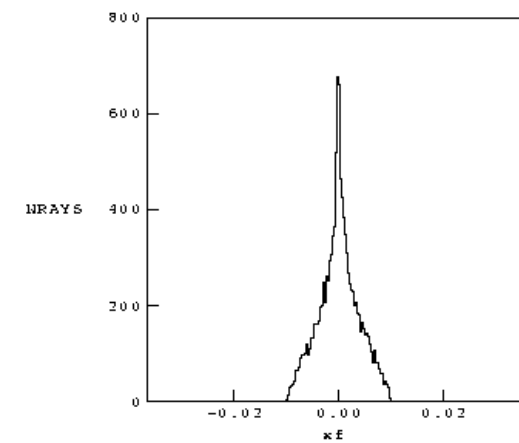
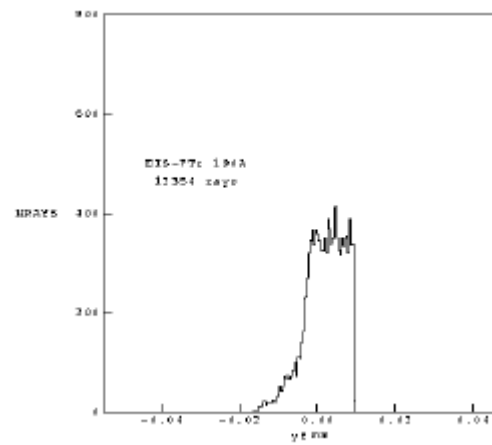
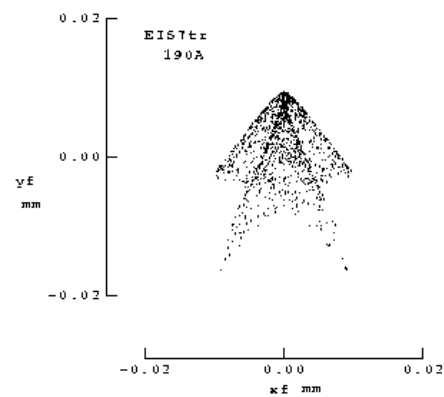
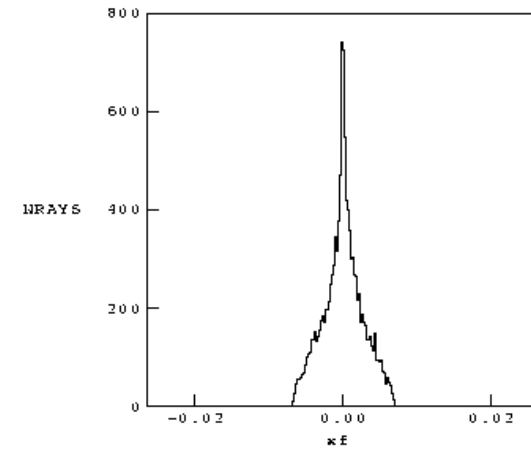
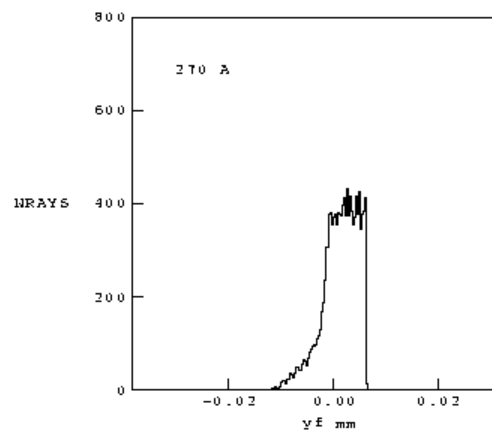
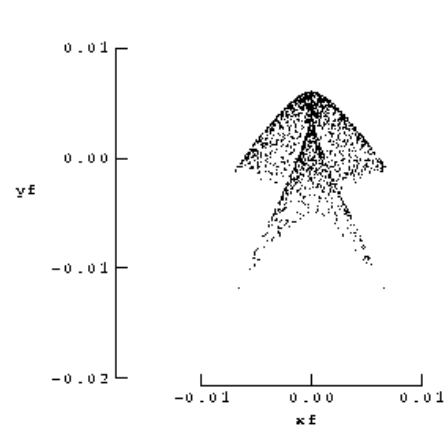
EIS-7TR Spectrometer Layout



EIS-7TR Spectrometer Layout 270 A Band



EIS-7Tr Spot Diagrams & Histograms



Detector Locations* -Summary

Grating & Detector	Det 'r X mm	Det 'r Z mm	Det 'r θ deg
4800 l / mm grating			
270 Å	76.2239	- 438.728	4.5761
190 Å	115.0144	- 435.483	5.5044
4200 l / mm grating			
270 Å	131.2431	- 432.865	5.9544
190 Å	163.1717	- 430.810	5.1353

*Coordinate system is that of the Ray-Trace program. Origin is at slit center.
Z axis is from slit center to grating center, Y is along slit.