



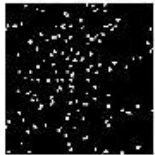
Chandra X-ray Observatory

CHANDRA ADVANCES RELATIVE TO OTHER X-RAY OBSERVATORIES



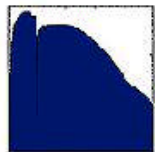
ANGULAR RESOLUTION: 0.5 arc seconds for Chandra

- 10 times better in one dimension, 100 times smaller pixel area (vs. Einstein and Rosat)
- Provides 10-100 fold increase in ability to resolve source structure and complex regions
- Provides (along with detectors and aspect camera) 10-100 fold improvement in source locations— essential for identification of faint sources



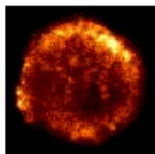
LIMITING SENSITIVITY: Fainter than 10^{-16} erg cm⁻² sec⁻¹ for Chandra

- Higher angular resolution significantly lowers background per pixel, providing 10-100 times increase in sensitivity for point source detection (compared to Rosat and Einstein)



ENERGY RANGE: 0.1 - 10 keV for Chandra

- High energy cutoff 4 times higher than Rosat and 2 times higher than Einstein
- Unprecedented high resolution coverage of Iron-K lines



SPATIALLY RESOLVED SPECTROSCOPY: High resolution optics + CCD detectors for Chandra

- First X-ray observatory to combine high spatial and spectral resolution
- Energy resolution better than 100 eV with 1 arc sec angular resolution provides accurate temperature maps of supernova remnants, galactic haloes, and clusters of galaxies



HIGH RESOLUTION SPECTROSCOPY: $E/\Delta E$ as high as 2000 with Chandra transmission gratings

- Energy resolution 10-100 times higher than for CCD
- Richly detailed spectra for point sources such as stellar coronae and active galactic nuclei