Chandra Observations of Supernova Remnants

Una Hwang (*NASA GSFC & U. of Maryland*)

[Invited Review Talk, 30 min.]

Abstract

The superb data from the Chandra and XMM-Newton Observatories are revealing never-before-seen details of the X-ray emission from supernova remnants. I will briefly review some of these exciting results, placing particular emphasis on Chandra observations of young, ejecta-dominated remnants. We have used the Chandra X-ray observations of these complex sources to make images in both broad and relatively narrow energy bands. Such images have been used to map the distribution of the ejecta and to locate the forward shock. The spectrum of the forward shock has generally been found to have temperatures comparable to those of the reverse shocked ejecta, contrary to expectation. We also highlight current results in our ongoing study of the spectra of individual knots and filaments in the brightest remnants. The distributions of ejecta inferred from these observations shows some surprising complexity; in some remnants we observe elements that should arise from the inner layers of the progenitors, at greater radii than material from the outer layers.

CATEGORY: