



Chandra X-ray  
Observatory Center

Harvard-Smithsonian Center for Astrophysics  
60 Garden St. Cambridge, MA 02138 USA  
<http://chandra.harvard.edu>

J0617 in IC 443: A neutron star located in a supernova remnant.  
(Credit: Chandra X-ray: NASA/CXC/B.Gaensler et al; ROSAT X-ray:  
NASA/ROSAT/Asaoka & Aschenbach; Radio Wide: NRC/DRAO/D.Leahy; Radio  
Detail: NRAO/VLA; Optical: DSS)

Caption: This wide-field composite image was made with X-ray (blue/ROSAT & Chandra), radio (green/Very Large Array), and optical (red/Digitized Sky Survey) observations of the supernova remnant, IC 443. The pullout, also a composite with a Chandra X-ray close-up, shows a neutron star that is spewing out a comet-like wake of high-energy particles as it races through space. Based on an analysis of the swept-back shape of the wake, astronomers deduced that the neutron star is located in the multimillion degree Celsius gas in the remnant. The direction of the wake is puzzling since it should point back toward the center of the remnant. A possible explanation is that it is being pushed aside by fast-moving gusts of gas in the remnant, much like cometary tails are pushed away by the solar wind.

Scale: Wide-field image is 46.5 by 49.3 arcmin; Inset image is 9.8 by 7 arcmin

Chandra X-ray Observatory ACIS Image

CXC operated for NASA by the Smithsonian Astrophysical Observatory

