



**Chandra X-ray  
Observatory Center**

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**Tycho's Supernova Remnant:** A supernova remnant in the Milky Way about 13,000 light years from Earth.

(Credit: X-ray: NASA/CXC/Rutgers/K.Eriksen et al.; Optical: DSS)

**Caption:** A long Chandra observation of Tycho has revealed a pattern of X-ray "stripes" never seen before in a supernova remnant. The stripes are seen in the high-energy X-rays (blue) that also show the blast wave, a shell of extremely energetic electrons. Low-energy X-rays (red) show expanding debris from the supernova explosion. The stripes, seen to the lower right of this composite image that includes optical data from the Digitized Sky Survey, may provide the first direct evidence that a cosmic event can accelerate particles to energies a hundred times higher than achieved by the most powerful particle accelerator on Earth.

**Scale:** Image is 19 arcmin across (about 55 light years)

*Chandra X-ray Observatory ACIS Image*

*CXC operated for NASA by the Smithsonian Astrophysical Observatory*

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