



**Chandra X-ray  
Observatory Center**

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**Circinus X-1:** A system with a neutron star in orbit with a massive star about 30,700 light years from Earth.

(Credit: X-ray: NASA/CXC/Univ. of Wisconsin-Madison/S.Heinz et al; Optical: DSS)

**Caption:** Chandra data of Circinus X-1 reveal a set of four rings that appear as circles around the neutron star, providing a rare opportunity to determine the distance to an object on the other side of the Milky Way galaxy. These rings can be seen in the composite image of X-rays from Chandra (red, green, and blue) with a visible light image from the Digitized Sky Survey. These rings are light echoes, which are produced when a burst of X-rays from the star system ricochets off of clouds of dust between Circinus X-1 and Earth. By combining the X-rays with radio data, astronomers can use relatively simple geometry to pinpoint the location of the intervening clouds and then Circinus X-1.

**Scale:** Image is 34 arcmin across (about 300 light years)

*Chandra X-ray Observatory ACIS Image*

*CXC operated for NASA by the Smithsonian Astrophysical Observatory*

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