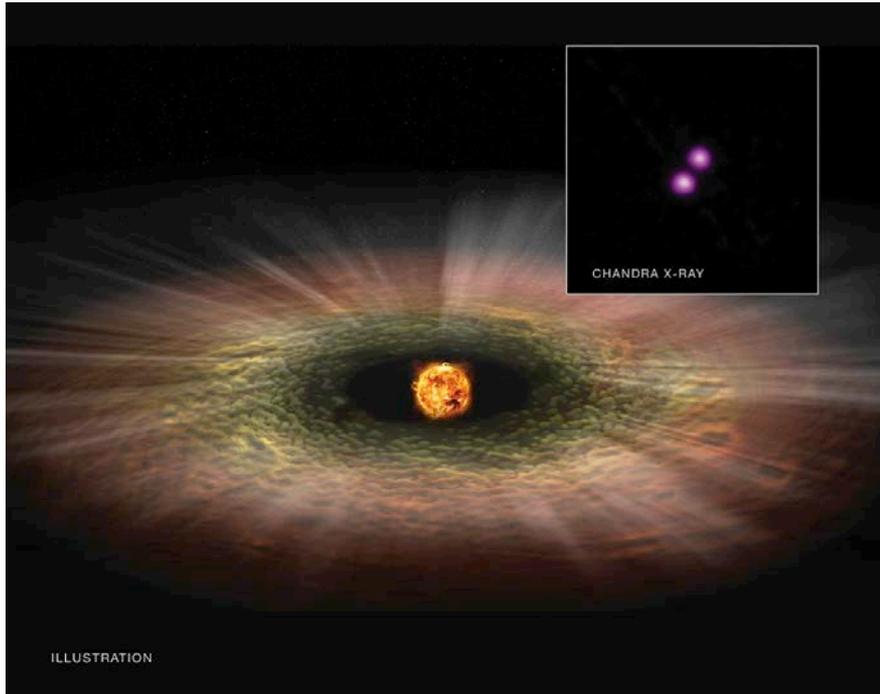




# Chandra Science Highlight

## Stellar X-rays and Destruction of Primordial Disks



The illustration depicts an X-ray active star surrounded by a disk of gas and dust. The disk is being destroyed by the heating from the X-rays. The inset shows the Chandra X-ray image of a binary star system consisting of two active low-mass ( $\sim 0.5$  solar mass) stars.

- ❑ Chandra was used to determine the X-ray luminosity of young ( $\sim 8$  Myr), low-mass ( $\sim 0.5$  solar mass and less) stars in the TW Hydrae Association (TWA).
- ❑ NASA's Wide-Field Infrared Survey Explorer (WISE) found evidence of protoplanetary disks around these stars in the form of excess infrared emission.
- ❑ The fraction of stars with evidence for disks decreases sharply as the X-ray luminosity increases. This suggests that strong X-ray fluxes can destroy circumstellar disks.

**Scale:**

Inset image is 1.23 arcmin across  
(about 0.07 light years)

**Distance Estimate:**

179 light years

**Credit:** X-ray: NASA/CXC/RIT/J.Kastner et al; Illustration: NASA/CXC/M.Weiss

**Instrument:** ACIS

**CXC Operated for NASA by the  
Smithsonian Astrophysical Observatory**



**June 2016**