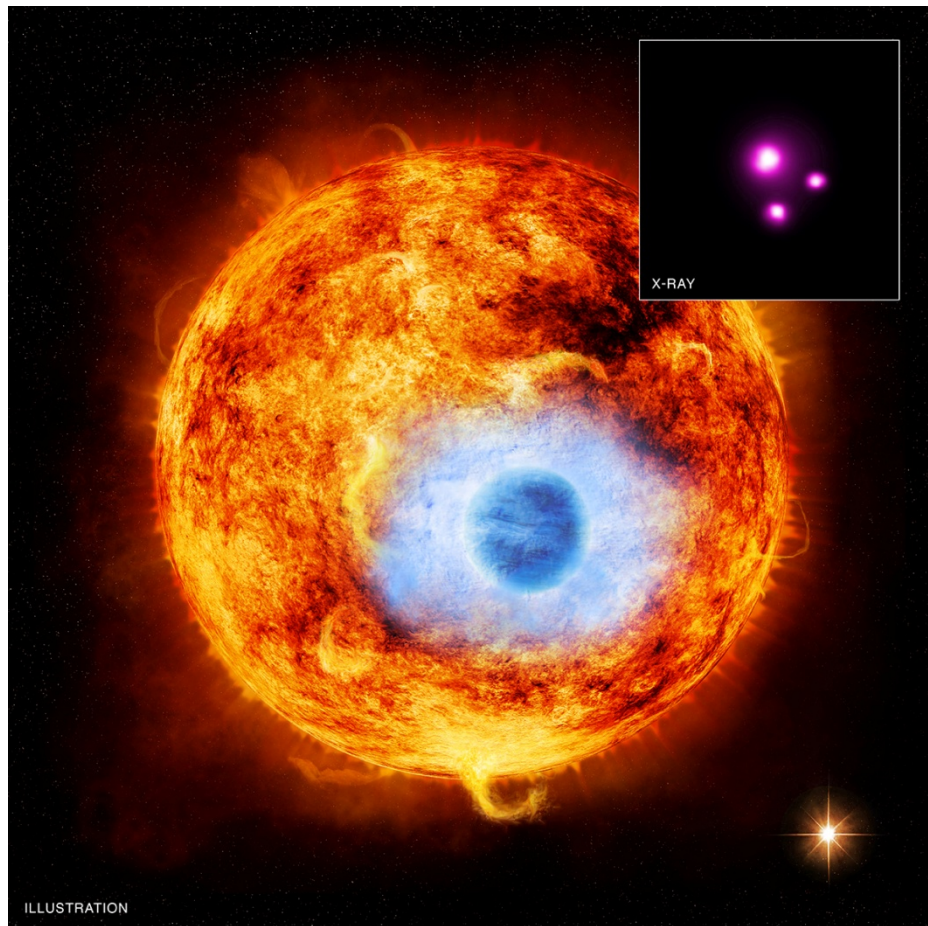




Chandra Science Highlight

HD 189733: NASA's Chandra Sees Eclipsing Planet in X-rays for First Time



The main figure is an illustration showing of HD189733, a system containing a Sun-like star, a Jupiter-sized exoplanet called HD 189773b, and a faint red companion star. The inset shows the Chandra image of HD 189733. The source in the middle is the main star and the source in the lower right is the faint companion star. The source at the bottom of the image is a background object not contained in the HD 189733 system.

- ❑ Monitoring of the source with Chandra shows that the X-ray intensity from the Sun-like star decreases by 6-8% when the exoplanet transits its parent star.
- ❑ The X-ray detection of the transit marks the first detection of an exoplanet transit in X-rays.
- ❑ The decrease in X-ray intensity during transit is 3-4 times greater than the corresponding decrease at optical wavelengths. This could be evidence for an extended, hot outer atmosphere .

Reference: Poppenhaeger, K. et al, 2013, ApJ (accepted);
arXiv:1306.2311

Credit: X-ray: NASA/CXC/SAO/K.Poppenhaeger et al;
Illustration: NASA/CXC/M.Weiss

Scale: Image is 1.5 arcmin across
(About 0.02 light years)

Distance Estimate: About 60 light years

Instrument: ACIS