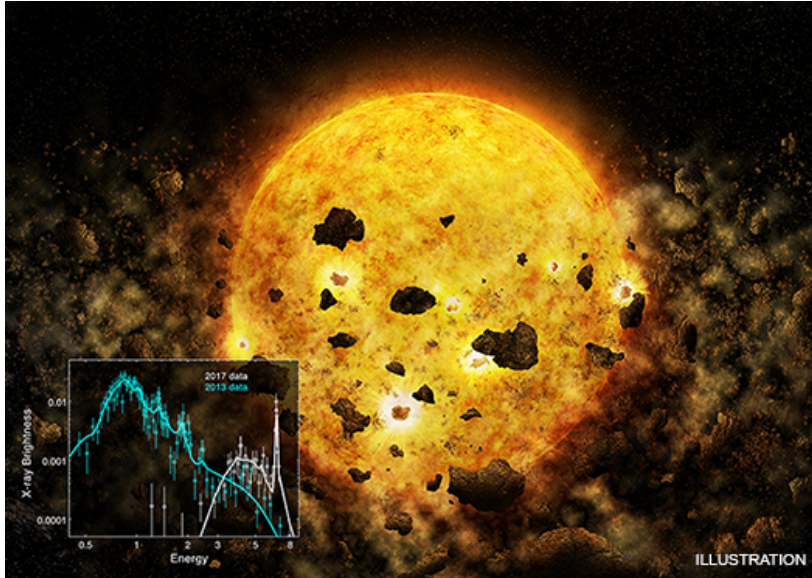




Chandra Science Highlight

RW Aur: Chandra May Have First Evidence of a Young Star Devouring a Planet



- RW Aur is a young (age ~ 10 Myr) star with a mass of 1.4 solar masses, surrounded by a disk of dust and gas.
- The star's optical light has faded briefly before brightening again every few decades.
- In the past decade, astronomers have observed the star dimming more frequently, and for longer periods.
- Chandra observations in 2017 show that a significant amount of absorbing material moved in front of the X-ray emitting corona of RW Aur, and that the amount of iron in the corona increased about 10-fold.
- The authors suggest that the breakup of a planetesimal or an Earth-like planet could have supplied large dust grains that caused the absorption and enriched the stellar corona with iron.

Artist's illustration depicts the destruction of a young planet or planets; Inset: Chandra spectra from the 2013 (green) and 2017 (white) observations. The sharp peak on the right side of the 2017 spectrum is a signature of a large amount of iron.

Distance estimate: 459 light years

Credit: Illustration: NASA/CXC/M.Weiss; X-ray spectrum: NASA/CXC/MIT/H.M.Günther

Instrument: ACIS

Reference: H. Günther et al. 2018 *Astron. J.* 156, 56 and arXiv:1807.06995

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