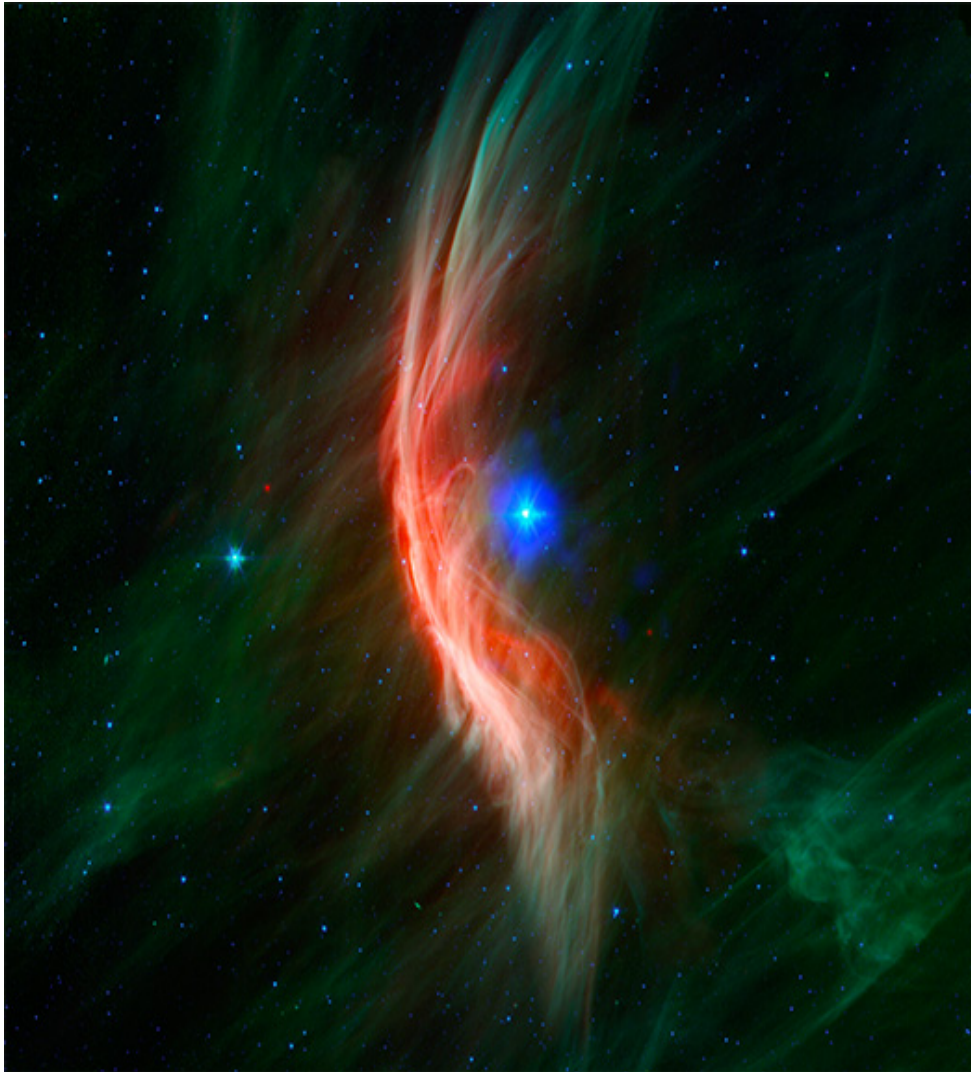




Chandra Science Highlight

Embracing a Rejected Star



- Zeta Ophiuchi is a massive, single star that likely once had a companion that exploded as a supernova.
- The explosion sent Zeta Ophiuchi hurtling through space, creating a spectacular shock wave seen in infrared data from the Spitzer Space Telescope.
- X-rays detected by Chandra come from gas that has been heated to millions of degrees.
- Researchers are working to match computational models of this object to explain data obtained at different wavelengths.

Distance estimate: 440 light-years

Credits: X-ray: NASA/CXC/Dublin Inst. Advanced Studies/S. Green et al.; Infrared: NASA/JPL/Spitzer

Instrument: ACIS

Reference: Green, S. et al., 2022, A&A, accepted; [arXiv:2203.06331](https://arxiv.org/abs/2203.06331)

Caption: Zeta Ophiuchi was once in close orbit with another star, before being ejected when this companion was destroyed in a supernova explosion. Infrared data from Spitzer, seen in this new composite image, reveal a spectacular shock wave (red and green) that was formed by matter blowing away from the star's surface and slamming into gas in its path. Data from Chandra show a bubble of X-ray emission (blue) located around the star, produced by gas that has been heated to tens of millions of degrees. <https://chandra.harvard.edu/photo/2022/zetaoph/>

The CXC is operated for NASA by the Smithsonian
Astrophysical Observatory



July 2022