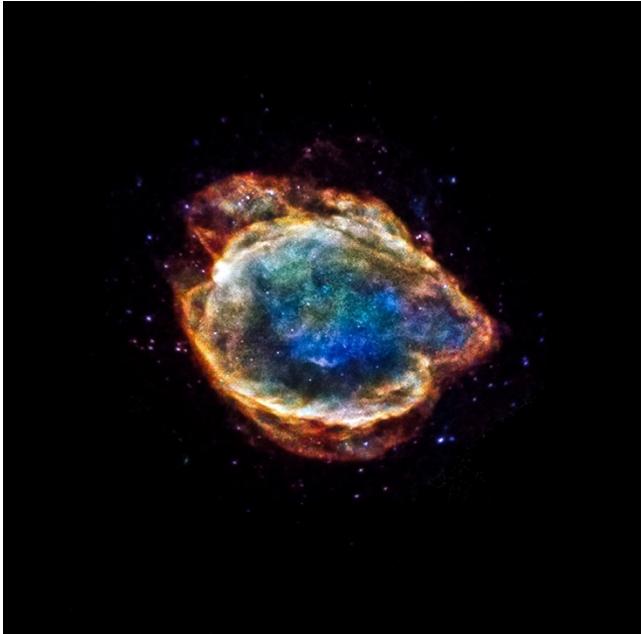




# Chandra Science Highlight

## G299.2-2.9: An Unusual Asymmetric Remnant of a Type Ia Supernova



Chandra image of the supernova remnant G299.2-2.9 (G299). Red, green, and blue represent low (0.4-0.72 keV), medium (0.72 – 1.4 keV), and high (1.4-3.0 keV) energy X-rays. The medium energy X-rays include emission from iron; the hard-energy X-rays include emission from silicon and sulfur.

- ❑ The lack of detectable oxygen and neon, and the relative abundances of silicon, sulfur and iron indicate that G299 is the remnant of a Type Ia supernova, i.e., a thermonuclear explosion triggered by the collapse of a white dwarf star.
- ❑ Unlike most Type Ia supernova remnants, G299 exhibits several examples of asymmetry, especially in the inner region.
- ❑ The iron/silicon abundance ratio is larger in the upper parts of the inner region (greener color).
- ❑ The inner region is strongly elongated in the East-West direction.
- ❑ The distributions of the ejecta suggest a significantly asymmetric explosion, or expansion into an asymmetric medium.

**Scale:**

Image is 24 arcmin across  
(114 light years).

**Distance Estimate:**

16,000 light years

**Reference:** Post, S. et al, 2014, ApJ, 792:L20; [arXiv:1406.2190](https://arxiv.org/abs/1406.2190)

**Credit:** X-ray: NASA/CXC/U.Texas/S.Post et al.

**Instrument:** Chandra ACIS Observation