Chandra Science Highlight

Setting the Clock on a Stellar Explosion

Caption: *Astronomers combined X-ray data from Chandra with those from other telescopes to determine how long ago the star in the supernova remnant called SNR 0519-69.0 exploded and learn about the environment the supernova occurred in. This composite image contains X-ray data from Chandra (green, blue, and purple with some appearing as white) and Hubble's optical data of the remnant's perimeter (red) and surrounding stars (white).*

- A new image of the supernova remnant SNR 0519-69.0 shows the debris of a white dwarf star that exploded after reaching a critical mass.
- This is a special kind of supernova known as a "Type Ia" that astronomers use to measure distances across the Universe.
- Astronomers concluded that the white dwarf exploded no more than about 670 years ago as seen from Earth.
- Some of the explosion's blast wave crashed into dense gas around the supernova remnant.

Distance estimate: About 160,00 light-years.

Credits: X-ray: NASA/CXC/GSFC/B. J. Williams et al.; Optical: NASA/ESA/STScI.

Instrument: ACIS

Reference: **Williams, B. J., et al., 2022, ApJ, 935, 78;** **arXiv:2207.08724**

((The photo album is at: https://chandra.si.edu/photo/2022/snr0519/)

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