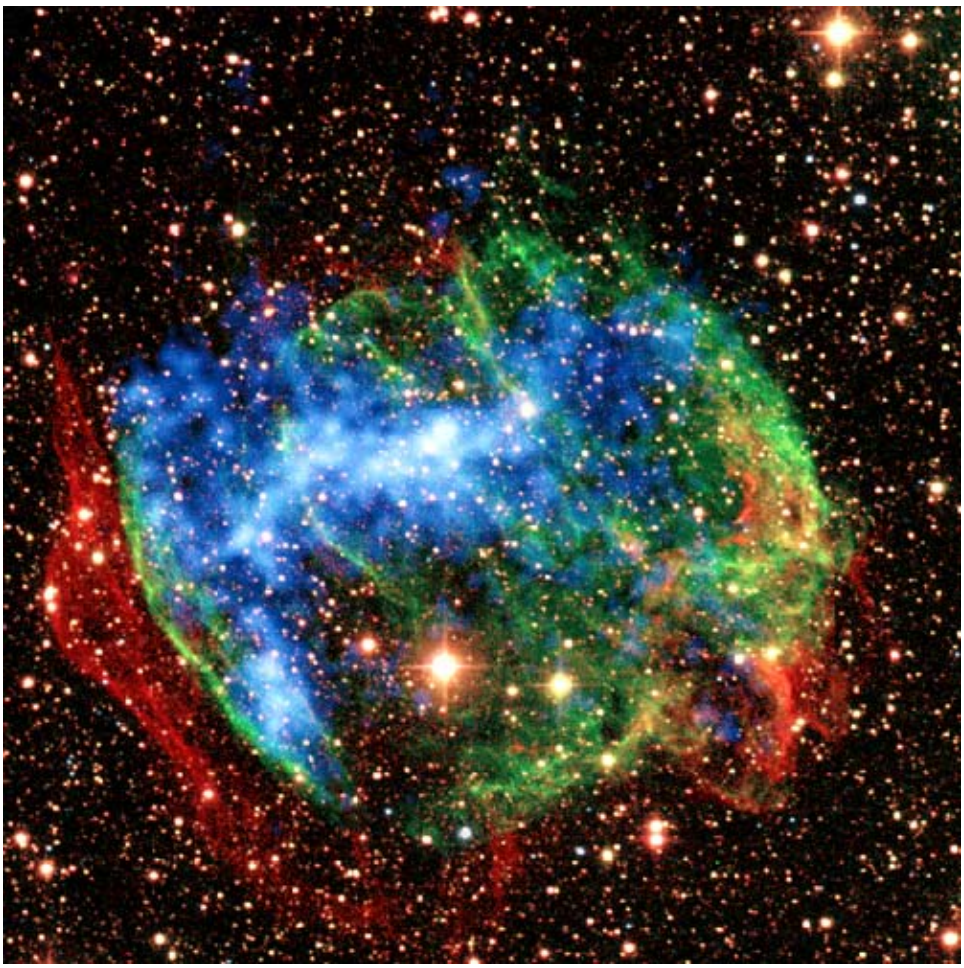

Chandra X-ray Observatory Center

Harvard-Smithsonian Center for Astrophysics
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W49B: A supernova remnant about 35,000 light years from Earth.
(Credit: X-ray: NASA/CXC/SSC/J. Keohane et al.; Infrared: Caltech/Palomar/J.Keohane et al.)

Caption: This is a composite Chandra X-ray (blue) and Palomar infrared (red and green) image that reveals a barrel-shaped supernova remnant consisting of bright infrared rings around a glowing bar of intense X-radiation. These X-rays are produced by jets of 15 million degree Celsius gas that is rich in iron and nickel. These features indicate that W49B was produced when the core of a rapidly-rotating massive star collapsed to form a black hole, triggering the ejection of high-energy jets of material. Such a sequence of events is consistent with the collapsar model for gamma-ray bursts. If confirmed, the discovery of a relatively nearby remnant of a gamma-ray burst would give scientists an excellent opportunity to study the aftermath of one of nature's most violent explosions.

Scale: Image is 5.7 arcmin per side.

Chandra X-ray Observatory ACIS Image

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