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N49B: A supernova remnant in the Large Magellanic Cloud, a galaxy 160,000 light years from Earth.

Credit: NASA/CXC/Penn State/S.Park et al.

On the left is a Chandra image of a cloud of multimillion degree gas produced by the explosion of a massive star. The image has been color coded so that low, medium and high energy X-rays are represented as red, green and blue, respectively. A specially processed version of this image that uses spectral data (right) reveals unexpectedly large concentrations of the element magnesium, shown as blue-green. Magnesium, created deep inside the star and ejected in the supernova explosion, is usually associated with correspondingly high concentrations of oxygen. However, the Chandra data indicate that the amount of oxygen in N49B is not exceptional. This poses a puzzle as to how the excess magnesium was created, or, alternatively, how the excess oxygen has escaped detection.

Scale: Each panel is 3.25 arcmin per side.

Chandra X-ray Observatory ACIS Images

CXC operated for NASA by the Smithsonian Astrophysical Observatory