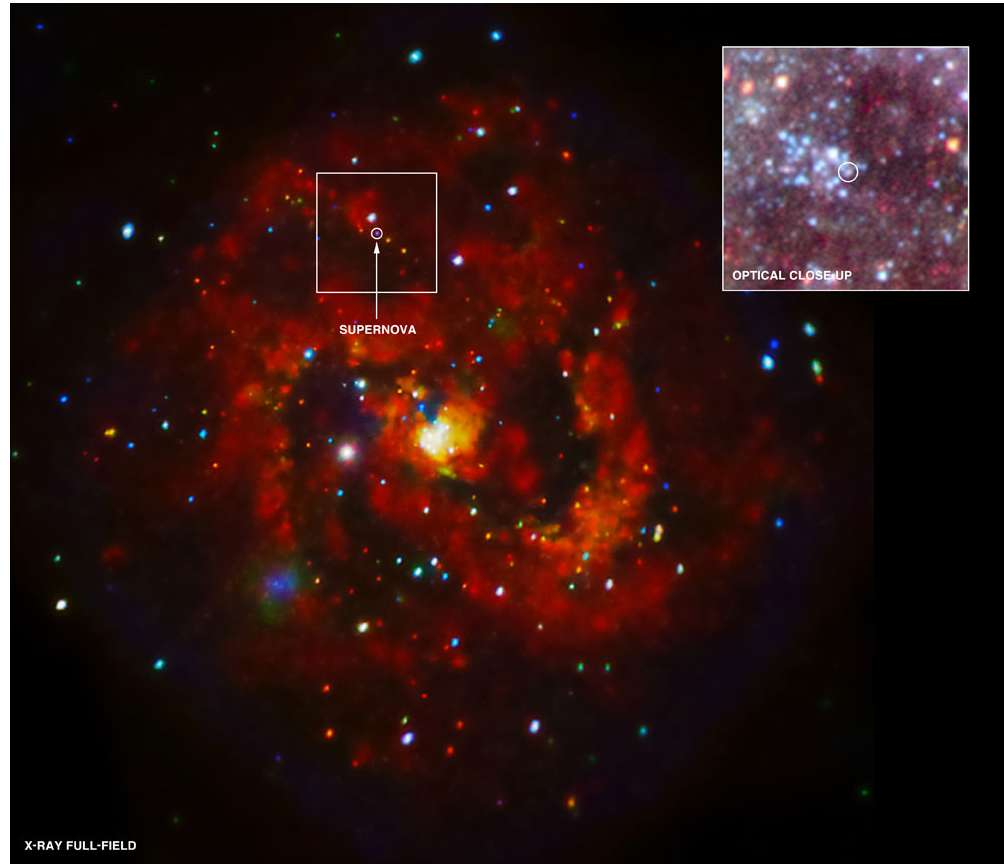




Chandra Science Highlight

SN 1957D in M83: X-rays Discovered from Young Supernova Remnant

Chandra ACIS Image



Distance Estimate: 15 million light years

Credit: X-ray: NASA/CXC/STScI/K.Long et al., Optical: NASA/STScI

Chandra image of the spiral galaxy M83 shows the low, medium, and high-energy X-ray observed by Chandra in red, green, and blue respectively. The location of SN 1957D, which is found on the inner edge of the spiral arm just above the galaxy's center, is outlined in the box

- A very long (8.5 days) Chandra observation enabled astronomers to make the first detection of X-rays from a supernova which was discovered in 1957.
- The X-ray spectrum of SN 1957D is hard, and exhibits significant absorption at lower X-ray energies.
- SN 1957D source could be a young neutron star surrounded by an expanding wind of relativistic particles (pulsar wind nebula), and a cloud of cooler supernova ejecta which absorbs the lower-energy X-rays.

Reference: Long, K. et al 2012, (in press) [arXiv: 1207.1555](https://arxiv.org/abs/1207.1555)