



Chandra X-Ray Observatory Center

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NGC 4261: An elliptical galaxy about 100 million light years from Earth.

Credit: X-ray: NASA/CXC/A. Zezas et al.; Optical: Pal.Obs. DSS

Chandra's image of NGC 4261 reveals dozens of black holes and neutron stars strung out across tens of thousands of light years like beads on a necklace. This spectacular structure, which is not apparent from the optical image of the galaxy, is thought to have been caused by a collision between galaxies a few billion years ago. As a smaller galaxy was captured and pulled apart by the gravitational tidal forces of NGC 4261, large streams of gas were pulled out into long tidal tails. Shock waves in the tidal tails triggered the formation of large numbers of massive stars, which eventually evolved into X-ray emitting neutron stars and black holes. This image shows that X-ray observations may be the best way to identify the ancient remains of mergers between galaxies.

Scale: Each panel is 237 x 290 arcsec.

Chandra X-ray Observatory ACIS Image

CXC operated for NASA by the Smithsonian Astrophysical Observatory