



**Chandra X-ray
Observatory Center**

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GW170817: A gravitational wave source located in the NGC 4993 galaxy about 130 million light years from Earth.

(Credit: NASA/CXC/Trinity University/D. Pooley et al.)

Caption: A new study using Chandra data of GW170817 indicates that the event that produced gravitational waves likely created the lowest mass black hole known. The artist's illustration shows a key part of the process that created this new black hole, as the two neutron stars spin around each other while merging. (The purple material depicts debris from the merger.) The Chandra data show levels of X-rays that are a factor of a few to several hundred times lower than expected for a rapidly spinning, merged neutron star and the associated bubble of high-energy particles, implying a black hole likely formed instead.

Scale: The image is about 0.5 arcminutes across (205,000 light years) across.

Chandra X-ray Observatory ACIS Image

CXC operated for NASA by the Smithsonian Astrophysical Observatory