



**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: X-ray: NASA/CXC/Northwestern U./W. Fong & R. Margutti et al. & NASA/GSFC/E. Troja et al.; Optical: NASA/STScI)

**Caption:** Astronomers have used Chandra to make the first X-ray detection of a gravitational wave source, which was discovered on August 17, 2017. The inset shows both the Chandra non-detection, or upper limit, of X-rays from GW170817 on August 19, and the subsequent detection on August 26. The main panel of the graphic is the Hubble image of NGC 4993, using data obtained on August 22. This discovery of detecting the aftermath of this gravitational wave event, the first to produce an electromagnetic signal of any type, represents the beginning of a new era in astrophysics.

**Scale:** Full field optical is about 0.9 arcmin across; X-ray inset is about 0.1 arcmin across

*Chandra X-ray Observatory ACIS Image*

*CXC operated for NASA by the Smithsonian Astrophysical Observatory*