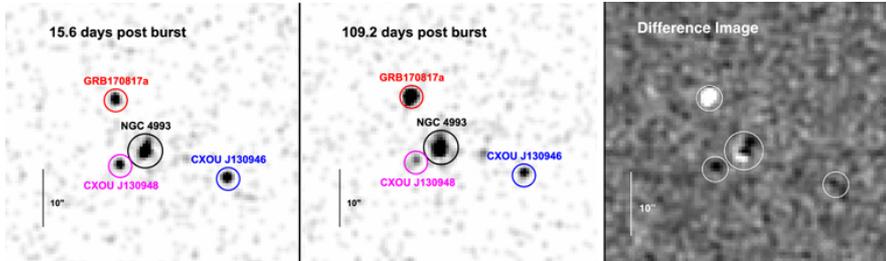




# Chandra Science Highlight

## GRB170817A: Brightening X-ray Emission from the Gravitational Wave Source GW170817



- The X-ray luminosity of GW170817 increased approximately 4-fold in 93.6 days.
- The observations support a scenario in which both X-ray and radio light are the afterglow of an outflow, which could be in the form of an expanding hot cocoon around a collimated jet of material.

Chandra images of the GRB170817A, a gamma-ray burst associated with the gravitational wave event GW170817. X-ray emission from the host galaxy NGC4993 and two other sources in the field is also shown. The images were taken 15.6 days (left) and 109.2 days (middle) after the burst. Taking into account the difference in exposures, the X-ray luminosity of the host galaxy NGC 4993 was approximately the same on the two dates, as shown in the difference image (right) in which the 15.6 day image is subtracted from the 109.2 day image, scaled by their respective exposures.

Distance estimate: 138 million light years

Image scale: About 20,000 light years on a side

Credit: NASA/CXC/McGill University/J. Ruan et al.

Instrument: ACIS

Reference: *Ruan et al, Astrophysical Journal Letters, Jan. 18, 2018.*  
<https://doi.org/10.3847/2041-8213/aaa4f3>

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