



**Chandra X-ray  
Observatory Center**

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**CID-42:** A galaxy, located nearly 4 billion light years from Earth, with a black hole being ejected from it. (Credit: X-ray: NASA/CXC/SAO/F.Civano et al; Optical: NASA/STScI; Optical (wide field): CFHT, NASA/STScI)

**Caption:** Chandra and other telescopes have shown that the galaxy CID-42 likely contains a massive black hole being ejected at several million miles per hour. The main panel is a wide-field optical image of CID-42 and the area around it. The outlined box represents the more localized view of CID-42 that is shown in the three separate boxes on the right-hand side of the graphic. An image from Chandra (top box) shows that the X-ray emission is concentrated in a single source, corresponding to one of the two sources seen in deep observations by Hubble (middle box). The precise Chandra data helps astronomers narrow their ideas about what is happening in this galaxy, supporting the ejected black hole theory.

**Scale:** Wide field image is 1 arcmin (1 million light years), Zoom image is 3.7 arcsec across (70,000 light years)

*Chandra X-ray Observatory ACIS Image*

*CXC operated for NASA by the Smithsonian Astrophysical Observatory*