



**Chandra X-ray
Observatory Center**

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CID-42: A source in the Cosmic Evolution Survey field thought to be at a distance of almost 4 billion light years.

(Credit: NASA/CXC/SAO/F.Civano et al.)

Caption: Evidence for a recoiling black hole has been found using data from Chandra (colored blue in this composite image), Hubble (gold), XMM-Newton, and several ground-based telescopes. This black hole kickback was caused either by a slingshot effect produced in a triple black hole system, or from the effects of gravitational waves produced after two supermassive black holes merged a few million years earlier. Of the 2,600 X-ray sources found in this survey, only CID-42 coincides with two very close, compact optical sources. In this image, the two sources are seen in the HST data, but they are too close for Chandra to resolve separately.

Scale: Image is 0.5 arcmin across (about 570,000 light years).

Chandra X-ray Observatory ACIS Image

CXC operated for NASA by the Smithsonian Astrophysical Observatory
