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GRB 140903A: A gamma-ray burst in a galaxy about 3.9 billion light years from Earth. (Credit: X-ray: NASA/CXC/Univ. of Maryland/E. Troja et al, Optical: Lowell Observatory's Discovery Channel Telescope/E.Troja et al. Illustration: NASA/CXC/M.Weiss)

Caption: This artist's illustration shows a narrow beam generated by the merger of two neutron stars and a resulting gamma-ray burst (GRB). Astronomers used several telescopes, including Chandra, to determine that these violent stellar mergers produce very narrow jets by studying the gamma-ray burst called GRB 140903A. The implication of this result is that a vast majority of these events will go undetected since most will not be directed along the line of sight towards Earth necessary for detection by telescopes. The smaller panels show an optical view of GRB 140903A (left) and an X-ray view from Chandra (right).

Scale: X-ray image is 15 arcsec across (about 244,00 light years)

Chandra X-ray Observatory ACIS Image

CXC operated for NASA by the Smithsonian Astrophysical Observatory