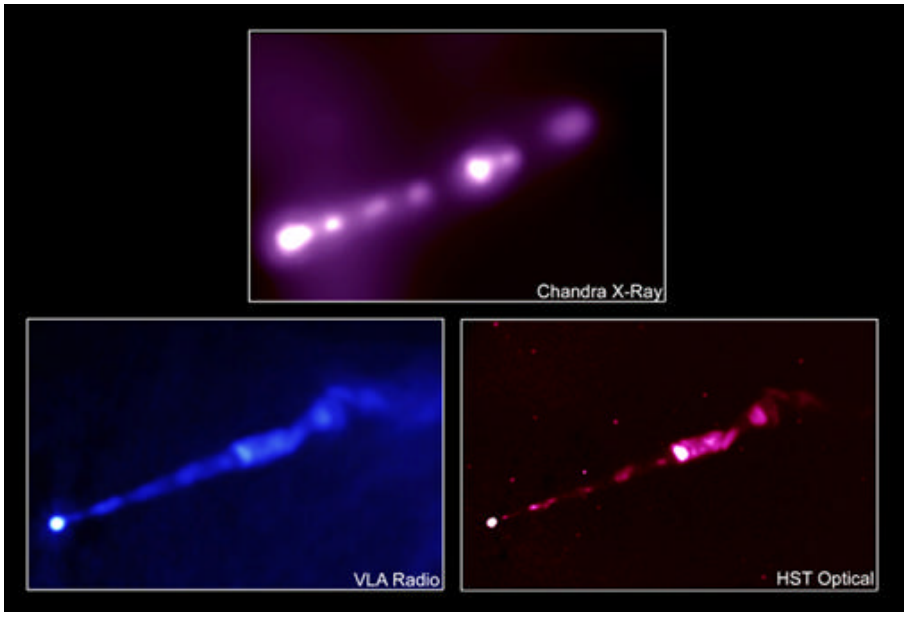


**Chandra X-ray Observatory Center**

Harvard-Smithsonian Center for Astrophysics
60 Garden St. Cambridge, MA 02138 USA
http://chandra.harvard.edu

**M87 Jet:** A jet in a giant elliptical galaxy about 50 million light years from Earth in the constellation Virgo.
(Credit: (X-ray) NASA/CXC/MIT/H. Marshall et al.; (Optical) NASA/STScI/UMBC/E. Perlman et al.); (Radio) NSF/NRAO/VLA)

**Caption:** The Chandra image (top) shows the bright nucleus of M87 (extreme left) where a supermassive black hole resides, and a "knotty" X-ray jet blasting outward. The Very Large Array radio image of the jet (lower left) and the Hubble optical image (lower right), show a similar structure in the jet. Detailed Chandra data suggest that the jet is produced by strong electromagnetic forces created by matter swirling toward the supermassive black hole. Inside the jet, shock waves produce high-energy electrons that radiate as they spiral around the magnetic field, creating the observed radio, optical and X-ray knots.

**Scale:** Image is 32 x 21 arcsec (each panel).

*Chandra X-ray Observatory ACIS/HETG Image*