



**Chandra X-ray
Observatory Center**

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M87: A galaxy with a supermassive black hole about 55 million light years from Earth.
(Credit: NASA/CXC/SAO/B.Sinos)

Caption: Astronomers used Chandra to show that the black hole in M87 is blasting particles out at over 99% the speed of light. The main graphic shows the entire length of M87's jet (over 18,000 light years) seen by Chandra. Meanwhile the insets contain snapshots of one zoomed in region, or "knot," of X-ray emission observed by Chandra in 2012 and 2017, to the upper right of X-rays from material around the black hole. Movement and fading of this knot and another farther along the jet provided the researchers the evidence that parts of the jet are traveling at remarkable speeds.

Scale: Wide-field image is about 45 arcsec (12,000 light years) across. Insets are about 3 arcsec (790 light years) across.

Chandra X-ray Observatory HRC Image

CXC operated for NASA by the Smithsonian Astrophysical Observatory
