



Chandra X-ray
Observatory Center

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

Andromeda Galaxy (M31): Central region of a galaxy 2.5 million light years from Earth.

(Credit: NASA/UMass/Z.Li & Q.D.Wang)

Caption: This color-coded Chandra image (red/low energy, green/medium energy, and blue/high energy X-rays) shows the central region of the Andromeda Galaxy where a diffuse, X-ray emitting cloud of hot gas was discovered in the midst of a collection of point-like sources. The point sources are associated with binary star systems that contain a neutron star or black hole that is pulling matter away from a normal star. The diffuse X-ray cloud is due to gas that has accumulated in the central region and been heated to millions of degrees, probably by supernova explosions. The energy input from the supernovas could also be driving gas out of the central region. This process may affect both the shape and evolution of the galaxy.

Scale: Image is 28 arcmin per side.

Chandra X-ray Observatory ACIS Image

CXC operated for NASA by the Smithsonian Astrophysical Observatory