



Chandra X-Ray Observatory Center

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Hot Gas in Galactic Center: A 130 light year region of the center of the Milky Way: Located about 25,000 light years from Earth, the region contains a supermassive black hole, hot gas, and thousands of X-ray sources.

Credit: NASA/CXC/UCLA/MIT/M.Muno et al.

This X-ray image was produced by combining a dozen Chandra observations made of the central region of the Milky Way. The colors represent low (red), medium (green) and high (blue) energy X-rays. Chandra's unique resolving power has allowed astronomers to identify thousands of point-like X-ray sources due to neutron stars, black holes, white dwarfs, foreground stars, and background galaxies. What remains is a diffuse X-ray glow extending from the upper left to the lower right, along the direction of the disk of the Galaxy. The Chandra data indicate that the diffuse glow is a mixture of 10-million-degree Celsius gas and 100-million-degree gas. Shock waves from supernova explosions are the most likely explanation for heating the 10-million degree gas, but how the 100-million-degree gas is heated is a mystery.

Scale: Image is 16 arcmin per side.

Chandra X-ray Observatory ACIS Image

CXC operated for NASA by the Smithsonian Astrophysical Observatory