



**Chandra X-ray
Observatory Center**

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The central region of the Milky Way: Located about 25,000 light years from Earth, the region shown is about 8 light years across. (Credit: NASA/CXC/UCLA/M.Muno et al.)

Caption: These images are part of an ongoing Chandra program that monitors a region around the Milky Way's supermassive black hole, Sagittarius A* (Sgr A*). Four bright, variable X-ray sources (circles) were discovered within 3 light years of Sgr A* (the bright source just above source C). The lower panel illustrates the strong variability of one of these sources. This variability, which is present in all the sources, is indicative of an X-ray binary system where a black hole or neutron star is pulling matter from a nearby companion star. Such a high concentration of X-ray binaries in this region is strong circumstantial evidence that a dense swarm of 10,000 or more stellar-mass black holes and neutron stars has formed around Sgr A*. The swarm likely formed as stellar-mass black holes, and to a lesser extent, neutron stars, gradually sank toward the center of the Galaxy over the course of several billion years.

Scale: Main image is about 8 light years across

Chandra X-ray Observatory ACIS Image

CXC operated for NASA by the Smithsonian Astrophysical Observatory