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Abell 2104: A cluster of galaxies about 2 billion light years from Earth in the constellation Serpens.

Credit: NASA/CXC/OCIW/P.Martini et al.

Chandra's observation of A2104 revealed six bright X-ray sources due to active supermassive black holes located in red galaxies. This surprised astronomers, because powerful X-ray emission from black holes requires large supplies of interstellar gas to feed the black holes, and red galaxies -- composed of older stars - are thought to have a sparse supply of gas. One possibility is that a galaxy can retain a supply of gas and dust deep in its core near the supermassive black hole, even in the harsh environment of a galaxy cluster.

Scale: Image is 10 arcmin on a side.

Chandra X-ray Observatory ACIS Image

CXC operated for NASA by the Smithsonian Astrophysical Observatory