A new study reveals what happens when a supermassive black hole in the center of a galaxy cluster stops being active.

By combining data from Chandra, Hubble, and Spitzer data, astronomers found prodigious star formation in the cluster known as SpARCS1049. The cluster is producing stars at a rate about 300 times that seen in the Milky Way galaxy.

The Chandra data show that a large amount of X-ray emitting gas near the center of the cluster has cooled enough to trigger this rapid star formation.

The result is in contrast with many other clusters that show activity from supermassive black holes keeping gas too hot to form many stars.

**Distance estimate:** About 9.9 billion light years \((z=1.709)\)

**Scale:** Image is about 50 arcsec (1.4 million light years) across

**Credit:** X-ray: NASA/CXO/Univ. of Montreal/J. Hlavacek-Larrondo et al; Optical/IR: NASA/STScI

**Instrument:** ACIS