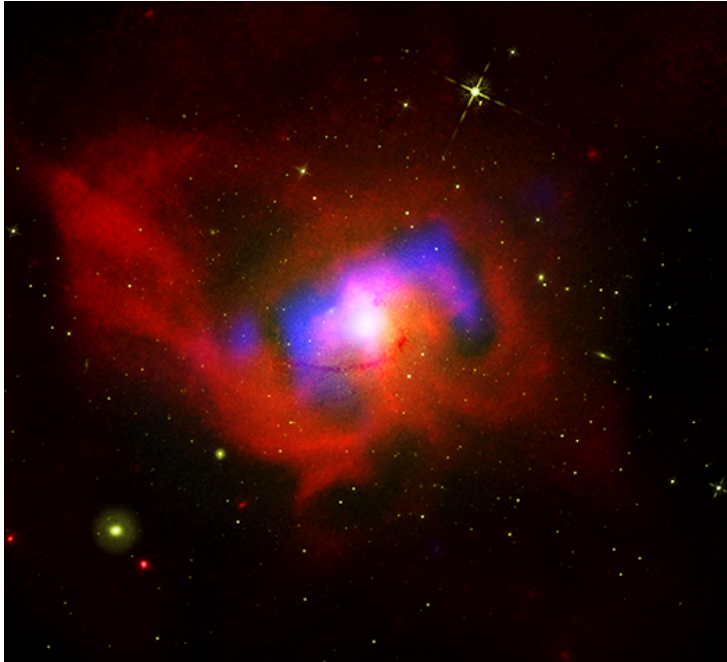




Chandra Science Highlight

Abell 3526: Centaurus Galaxy Cluster



A composite image of the Centaurus galaxy cluster, a.k.a. Abell 3526. Chandra X-ray data, shown in red, trace gas with temperatures ranging from 6 MK to 30 MK. Radio data from the Karl G. Jansky Very Large Array (blue), show the location of high-energy particles. Visible light data from the Hubble Space Telescope (green) show galaxies in the cluster as well as foreground galaxies and stars outside the cluster.

- The X-image, consisting of more than a week of Chandra observing time, reveals several sets of cavities in the hot gas, and a large plume of hot gas extending to the upper left at the 10 o'clock position.
- The inner cavities are bright at radio wavelengths, showing that they are filled with extremely high-energy particles traveling close to the speed of light.
- The cavities surround a large elliptical galaxy, NGC 4696
- The X-ray cavities, hot plume, and radio emission are likely caused by explosive outbursts generated every 5-10 Myr by a supermassive black hole in the center of NGC 4696

Scale: Image is about 2.2 arcmin across (about 93,000 light years)

Distance Estimate: About 145 million light years

Credit: X-ray: NASA/CXC/MPE/J.Sanders et al.; Optical: NASA/STScI; Radio: NSF/NRAO/VLA

Instrument: ACIS

Reference: : Sanders, J. et al., 2016 MNRAS 457, 82:
arXiv:1601.01489

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