



Chandra Science Highlight

NGC 5746: A Quiescent Spiral Galaxy with a very Extended X-ray Halo

Chandra X-ray Observatory ACIS image.



Chandra observations of the massive spiral galaxy NGC 5746 show a large halo of hot gas (blue) surrounding the optical disk of the galaxy (white). The halo extends more than 60,000 light years on either side of the disk of the galaxy, which is viewed edge-on.

- The galaxy shows no signs of unusual star formation, or energetic activity from its nuclear region, making it unlikely that the hot halo is produced by gas flowing out of the galaxy.
- Computer simulations and Chandra data show that the likely origin of the hot halo is the gradual inflow of intergalactic matter left over from the formation of the galaxy.
- Hot gas flowing outward has been observed in galaxies with vigorous star formation, but this is the first detection of an extended hot halo around a quiescent spiral galaxy.

Reference: K. Pedersen et al. 2006 *New Astronomy* (in press). see also [astro-ph](#)

Credit: X-ray: NASA/CXC/U. Copenhagen/K. Pedersen et al;
Optical: Palomar DSS