



Chandra X-ray  
Observatory Center

Harvard-Smithsonian Center for Astrophysics  
60 Garden St. Cambridge, MA 02138 USA  
<http://chandra.harvard.edu>

---

NGC 5746: A massive spiral galaxy about 100 million light years from Earth.  
(Credit: X-ray: NASA/CXC/U. Copenhagen/K.Pedersen et al; Optical: Palomar DSS)

Caption: Chandra's observation of the hot halo (blue) surrounding the optical disk (white) of NGC 5746 should help astronomers better understand how galaxies form. Spiral galaxies are thought to form from enormous clouds of intergalactic gas that collapse to form spinning disks of stars and gas. The Chandra data and computer simulations show that the likely origin of NGC 5746's 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 a hot halo around a quiescent spiral galaxy. This discovery was welcome news to astronomers because it showed that inflowing hot halos predicted by computer models in fact exist.

Scale: Image is 13.3 arcmin across.

Chandra X-ray Observatory ACIS Image

CXC operated for NASA by the Smithsonian Astrophysical Observatory

---