



**Chandra X-ray  
Observatory Center**

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

---

**Abell 98:** A system of galaxy clusters about 1.4 billion light-years from Earth  
(Credit: X-ray: NASA/CXC/CfA/A. Sarkar; Optical: NSF/NOIRLab/WIYN)

**Caption:** Abell 98 is a system of galaxy clusters in the early stages of a collision. Astronomers have used Chandra data to identify key structures in this system and search for some of the "normal" matter (not dark matter) missing from most observations of the local universe. Scientists have proposed that at least some of this unaccounted-for mass could be hidden in gigantic strands known as the "warm-hot intergalactic medium," or WHIM. The new Chandra study has found evidence for the WHIM in Abell 98, shown here in a composite image from Chandra (blue and purple) and the WIYN telescope (appearing red and white).

**Scale:** The image is about 6.14 arcmin (2.3 million light years) across.

*Chandra X-ray Observatory ACIS Image*

*CXC operated for NASA by the Smithsonian Astrophysical Observatory*

---