



**Chandra X-ray
Observatory Center**

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

Abell 2199, RXJ1504.1-0248, Abell 3667 and Abell 85: A sample of galaxy clusters from a large survey.
(Credit: NASA/CXC/Univ. of Bonn/K. Migkas et al.)

Caption: This graphic contains a map of the full sky and Chandra images of four galaxy clusters that were analyzed in a large survey to test whether the Universe is the same in all directions over large scales. Galaxy clusters are the largest objects in the Universe bound by gravity and astronomers can use them to measure important cosmological properties. This study, using Chandra and XMM-Newton data, capitalizes on the relationship between the temperature of the hot gas pervading a galaxy cluster and the amount of X-rays it produces. The results suggest the concept of an "isotropic" Universe may not entirely fit.

Chandra X-ray Observatory ACIS Image

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