



**Chandra X-ray
Observatory Center**

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Probing Dark Energy with Clusters: From a sample of over 300 galaxy clusters used to study dark energy.

(Credit: X-ray: NASA/CXC/Univ. of Alabama/A. Morandi et al; Optical: SDSS, NASA/STScI)

Caption: These four galaxy clusters were part of a large survey of over 300 clusters used to investigate dark energy, the mysterious energy that is currently driving the accelerating expansion of the Universe. In these composite images, X-rays from Chandra (purple) have been combined with optical light from Hubble and Sloan Digital Sky Survey (red, green, and blue). Researchers used a novel technique that takes advantage of the observation that the outer reaches of galaxy clusters, the largest structures in the universe held together by gravity, show similarity in their X-ray emission profiles and sizes.

Chandra X-ray Observatory ACIS Image

CXC operated for NASA by the Smithsonian Astrophysical Observatory