



Chandra X-ray  
Observatory Center

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4C37.43: A quasar 4 billion light years from Earth.  
(Credit: Illustration: NASA/CXC/M.Weiss; X-ray inset:  
NASA/CXC/U.Hawaii/A.Stockton et al.)

Caption: An artist's illustration depicts a quasar in the center of a galaxy that has turned on and is expelling gas at high speeds in a galactic superwind. Clouds of hot, X-ray producing gas detected by Chandra around the quasars 4C37.43 (shown in the inset) and 3C249.1, provide strong evidence for such superwinds. The X-ray features seen at five, six, ten and eleven o'clock in the 4C37.43 image are located tens of thousands of light years from the central supermassive black hole thought to power the quasar. They are likely due to shock waves in the superwind. Computer simulations show that the merger of two galaxies can lead to the ignition, or turn-on, of a quasar and the subsequent expulsion of gas from the galaxy in a superwind.

Scale: Image is 21 arcsec per side.

Chandra X-ray Observatory ACIS Image

CXC operated for NASA by the Smithsonian Astrophysical Observatory

