

## Chandra Observation of Abell 4059; A dramatic radio-galaxy/cluster interaction

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We present Chandra observation of the core regions of Abell 4059. We also present new 1.4 GHz and 4.7 GHz radio data from the Very Large Array (VLA) taken with the BnC configuration and an archival Hubble Space Telescope (HST) Wide Field Planetary Camera 2 (WFPC2) image of the cD galaxy, ESO 349-G010 at the center of the cluster. There is no coincidence between the radio lobes and the X-ray cavities shown by the ROSAT high-resolution imager (Huang & Sarazin 1998), leading to the conclusion that these are "ghost" cavities, similar to the ones seen in Perseus A, Abell 2597, and NGC 4636. We also find the evidence for an interaction of a radio-galaxy, PKS2354-35, driven expanding cocoon and a pre-existing bulk ICM flows. Such an ICM flow may result from a cluster/sub-cluster merger-the presence of a prominent dust-lane in the cD galaxy of Abell 4059.