Detection of Intracluster Gas Bulk Motions

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Abstract

The use of X-ray spatially resolved spectroscopy for measurements of the gas bulk velocities in the ICM is a new technique that depends strongly on the knowledge of gain variations across the spectrometers. It has been recently applied successfully with ASCA for two clusters. We review the recent detection of large (>1000 km/s) gas bulk motions in the ICM of Perseus and Centaurus clusters. We also discuss the data analysis procedures and prospects for detection of such gas velocities with ASCA, Chandra and XMM as well as using other means, e.g., differential comptonization of the CMBR in the direction of clusters.

CATEGORY: CLUSTERS OF GALAXIES