

[GC-01] **Dynamics of Galaxy Clusters in Wide-field Galaxy Surveys**

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We present a kinematic analysis of galaxy clusters using a spectroscopic sample of galaxies in Sloan Digital Sky Survey (SDSS) and Two Degree Field Galaxy Redshift Survey (2dFGRS). We have selected the member galaxies of more than 850 Abell clusters covered by these surveys using the galaxies' redshift and positional data for kinematic analysis. First, we search for galaxy clusters that show an indication of global rotation. We find 12 tentative rotating clusters with large ratios of rotation amplitude to dispersion and large velocity gradients. Of the 12 tentative rotating cluster, we have selected six probable rotating clusters (A954, 1139, 1399, 2162, 2169, and 2366) that show a single number-density peak around the cluster center with a spatial segregation of high- and low-velocity galaxies. Secondly, we investigate the galaxy orbits in galaxy clusters. We determine the galaxy orbits for ten clusters with constant and variable velocity anisotropy over the clustercentric radius using the Jeans equation. Using all member galaxies, six clusters are found to have isotropic orbits, three clusters modest tangential orbits, and galaxy orbits could not be determined for one cluster. For A1795 and A2199, the orbital difference between early-type and late-type galaxies appears not to be significant. For A779 and A1650, late-type galaxies show preferentially tangential orbits, while early-types isotropic orbits.

[GC-02] **AKARI observations of Abell 2065**

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We present the preliminary results of infrared observations of nearby galaxy cluster Abell 2065 using AKARI IRC with 6 bands (N3, N4, S7, S11, L15, and L24). A2065 is a richness class 2 cluster of galaxies at redshift $z=0.072$. Previous studies with X-ray observations show that A2065 is in the process of merging between two subclusters with different masses. We attempted to examine the effects of cluster merging on the star formation activities within the member galaxies. We have used the spectroscopic and photometric redshifts to determine membership among the detected objects in the AKARI data. More than 600 sources are detected in NIR & MIR, and 15 objects are determined as member galaxies. Among them, 14 members are classified as early type galaxies, and only one object is classified as a star forming galaxy by spectral energy distribution.

This work is based on observations with AKARI, a JAXA project with the participation of ESA.