

[GC-03] **Preliminary results of AKARI observation on Abell 2219**

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We present preliminary analysis of AKARI data for a massive cluster of galaxies Abell 2219, which is obtained using 6 bands at 2-24  $\mu\text{m}$  available in the InfraRed Camera (IRC), to investigate the effects of environment on star formation activity and galaxy evolution. We detected about 220 galaxies and many other sources on the detection image created by merging with individual single band images. We have identified about 100 member galaxies by matching the detected sources with the radial velocity catalog by Boschin et al.'s (2004). About fifty members are obviously classified as early type galaxies based on their optical to MIR SEDs. Late type galaxies are found to be only five. We find that the emission feature around 10  $\mu\text{m}$  is clearly recognizable in the observed SED, which is probably from the PAH.

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

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[GC-04] **AKARI Observation of Early-Type Galaxies in Abell 2218**

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We present the AKARI InfraRed Camera (IRC) imaging observation of nearby early-type galaxies in Abell 2218. It has been known that early-type galaxies show excess emission over the stellar light in MIR, which are attributed to the circumstellar dust around AGB stars or low level of post-starburst activity. Especially, MIR emission of AGB stars has been suggested as a way to disentangle the age-metallicity degeneracy of early-type galaxy properties. However, distinguishing the two possibilities and tracing the MIR activity of AGB stars require observations at the wavelength 7 micron to 15 micron, and before AKARI, such an observation has been possible with expensive spectroscopic observations using IRS on the Spitzer and with small area coverage of the ISO detectors. We show that the crucial 7-15 micron spectral energy distributions (SEDs) of early-type galaxies imaged by the AKARI IRC and explore any dependence on cluster radius in the properties of early-type galaxies in Abell 2218.