[AK09] AKARI Observation of Nearby Early-Type Galaxies

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We present the AKARI InfraRed Camera (IRC) imaging observation of nearby early-type galaxies. It has been known that early-type galaxies show excess emission over the stellar light at MIR, which are attributed to the circumstellar dust around AGB stars or low level of star formation activity. Especially, MIR emission of AGB stars has been suggested as a way to disentangle the age-metallicity degeneracy of early-type galaxy properties, thus adding the importance to the understanding MIR part of the early-type galaxy spectral energy distribution. 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 only with expensive spectroscopic observations using IRS on the Spitzer. In this talk, we show that the crucial 7-15 micron spectral energy distributions (SEDs) of nearby early-type galaxies imaged by the AKARI IRC. Our work demonstrates that the AKARI observation can provide a powerful diagnostics for understanding the nature of early-type galaxies in MIR.