

Dust in FIR-bright ADF-S galaxies

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Abstract. Multiwavelength Spectral Energy Distributions (SEDs) of far-infrared (FIR) galaxies detected in the AKARI South Ecliptic Poles Survey (ADF-S) allow to trace differences between [Ultra]-Luminous Infrared Galaxies ([U]LIRGs) and other types of star-forming galaxies (SF).

Keywords. galaxies: infrared - galaxies: evolution - galaxies: spectral energy distribution

1. Results

The ADF-S provides the highest quality FIR image of the extragalactic Universe. With its four photometric bands (65, 90, 140, and 160 μm) it maps a wide area of 12 sq². We cross-correlated ADF-S catalog with public databases (Małek *et al.* 2013) and used the CIGALE SED fitting code (Noll *et al.* 2009) to measure the physical parameters of the ADF-S sources.

We created average SEDs (Fig. 1), normalized all SEDs at rest frame 90 μm , and divided them into: ULIRGs (17 galaxies), LIRGs (31 galaxies), and the remaining galaxies (82 objects). We notice a significant shift in the peak λ of the dust emission in the FIR and a different ratio between luminosities in the optical and IR parts of these three types of galaxies (Małek *et al.* 2014). It means that [U]LIRGs contain cooler dust than SF galaxies, and that the ratio between luminosities in the optical and IR parts of the spectra increases with the dust luminosity.

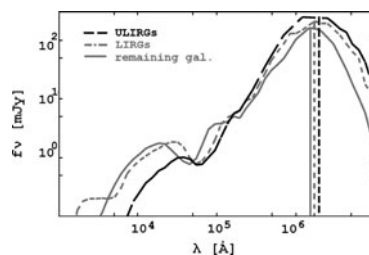


Figure 1. The average SEDs normalized at 90 μm .

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