

Fitting the spectral energy distributions of galaxies with CIGALE : Code Investigating GALaxy Emission

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Abstract. We use the code CIGALE (Code Investigating Galaxies Emission: Burgarella *et al.* 2005; Noll *et al.* 2009) which provides physical information about galaxies by fitting their UV (ultraviolet)-to-IR (infrared) spectral energy distribution (SED). CIGALE is based on the use of a UV-optical stellar SED plus a dust IR-emitting component. We study a sample of 136 Luminous Infrared Galaxies (LIRGs) at $z\sim 0.7$ in the ECDF-S previously studied in Giovannoli *et al.* (2011). We focus on the way the empirical Dale & Helou (2002) templates reproduce the observed SEDs of the LIRGs. Fig. 1 shows the total infrared luminosity (L_{IR}) provided by CIGALE using the 64 templates (x axis) and using 2 templates (y axis) representative of the whole sample. Despite the larger dispersion when only 1 or 2 Herschel data are available, the agreement between both values is good with $\Delta \log L_{IR} = 0.0013 \pm 0.045$ dex. We conclude that 2 IR SEDs can be used alone to determine the L_{IR} of LIRGs at $z\sim 0.7$ in an SED-fitting procedure.

Keywords. galaxies: evolution — infrared: galaxies

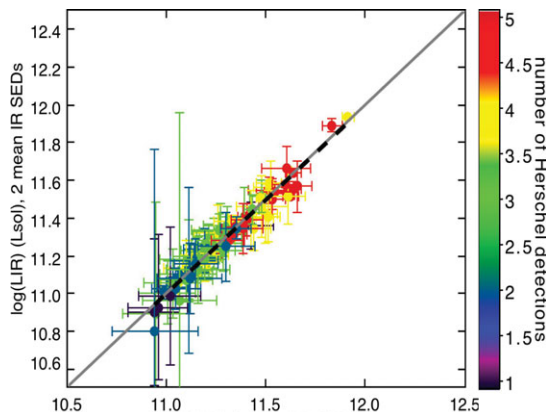


Figure 1. L_{IR} derived by CIGALE using the IR templates from Dale & Helou (2002) library. On the x axis L_{IR} is derived using the 64 templates from the IR library and on the y axis L_{IR} is derived using only 2 IR templates representative of the whole sample of 136 LIRGs.

References

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