Hot-dust (690 K) Luminosity Density and its Evolution in the Last 7.5 Gyr

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Abstract

We study the contribution of hot-dust to the luminosity density of galaxies and its evolution with cosmic time. Using the *Spitzer*-IRAC data over an area of $1.8\,\mathrm{deg}^2$ covered by the COSMOS field, we estimate the contribution from hot-dust at rest-frame $4.2\,\mu$m (from $0 < z < 0.2$ up to $0.5 < z < 0.9$). This wavelength corresponds to black-body temperature of $\sim 690\,$K. The contribution due to stellar emission is estimated from the rest-frame $1.6\,\mu$m luminosity (assumed to result from stellar emission alone) and subtracted from the mid-infrared luminosity of galaxies to measure hot-dust emission. The results to be presented in this poster are the continuation of the work shown in Messias et al.(2013), and are part of an on-going master-thesis work. The current goals are the identification of possible biases affecting the 2013 work and the direct comparison of the hot-dust component with the cold one observed at longer wavelengths with *Herschel*.