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Title:	Power-Law Template for IR Point Source Clustering
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Abstract

We perform a combined fit to angular power spectra of unresolved infrared (IR) point sources from the Planck satellite (at 217, 353, 545 and 857 GHz, over angular scales $100 < l < 2200$), the Balloon-borne Large-Aperture Submillimeter Telescope (BLAST; 250, 350 and 500 um; $1000 < l < 9000$), and from correlating BLAST and Atacama Cosmology Telescope (ACT; 148 and 218 GHz) maps. We find that the clustered power over the range of angular scales and frequencies considered is well fit by a simple power law of the form $C_l \propto l^{-n}$ with $n = 1.25 +/- 0.06$. While the IR sources are understood to lie at a range of redshifts, with a variety of dust properties, we find that the frequency dependence of the clustering power can be described by the square of a modified blackbody, $nu^\beta B(nu, T_{eff})$, with a single emissivity index $beta = 2.20 +/- 0.07$ and effective temperature $T_{eff} = 9.7$ K. Our predictions for the clustering amplitude are consistent with existing ACT and South Pole Telescope results at around 150 and 220 GHz, as is our prediction for the effective dust spectral index, which we find to be $alpha_{150-220} = 3.68 +/- 0.07$ between 150 and 220 GHz. Our constraints on the clustering shape and frequency dependence can be used to model the IR clustering as a contaminant in Cosmic Microwave Background anisotropy measurements. The combined Planck and BLAST data also rule out a linear bias clustering model.