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Estimate CIB Contamination in $\kappa - y$ Cross-Correlation

This study is basically a noise analysis in an existing result. We reconstructed a y map using NILC method to null CMB and galactic dust signal. We then constructed a CIB-subtracted y map. We estimated the fraction of CIB contamination in the $\kappa - y$ cross-correlation in the reconstructed y map by comparing the cross correlation signal in the two y maps. The result suggest that The result suggests that $\kappa - \text{CIB}$ contributes $7.75\% \pm 5.21\%$ with only 1.87σ significance. So the reconstructed y map is not significantly contaminated by CIB.

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