Department of Theoretical Physics

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Removing a hidden foreground leakage from harmonic space ILC algorithm and analysis of Planck and WMAP data

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Room A304

We discover usual harmonic space Internal-Linear-Combination (ILC) algorithm for foreground minimization inevitably contaminates its outcome by a hitherto unaccounted for leakage signal that arise due to foreground components. We propose a method to nullify the leakage and apply the improved ILC algorithm on Planck-2015 and WMAP 9-year data. We discuss a few other improvements of the harmonic space ILC algorithm. Our CMB cleaned map and its angular power spectrum agrees with Planck published results with some differences at different multipole ranges.

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