Department of Theoretical Physics



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Measurements of Degree-scale B-mode polarization with BICEP2, Keck Array and Planck

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One generic prediction of cosmic inflation is the existence of a background of gravitational waves, which produces a distinct, curl-like, signature in the polarisation of the CMB, referred to as primordial B-mode polarisation. From the analysis of the Planck polarisation maps, we know that this signal at degree angular scales cannot be measured without subtraction of the dust foreground emission, even in the cleanest sky at high Galactic latitude. The path forward to detect the primordial CMB B-mode signal is to combine multifrequency sky observations. I will present the current status of primordial CMB B-mode detection from BICEP2, Keck Array and Planck experiments and the general properties of the polarized emission from Galactic dust.



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