

Abstract Submitted
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Planned CMB Satellite Mission Overview ADRIAN LEE, University of California, Berkeley — I will summarize space missions that are in the planning stage to measure the polarized spatial fluctuations of the cosmic microwave background (CMB). Space missions are complementary to ground-based observatories. First, the absence of atmospheric emission results in a wider range of frequencies that can be observed, which in turn improves removal of galactic foreground emission. Second, the stable observations possible from space give high-fidelity measurements at angular scales of tens of degrees where inflation theory predicts a peak in the B-mode angular power spectrum. Robust detection of both this “reionization” peak and the “recombination” peak at degree angular scales will give the most convincing case that the fingerprints of inflation have been detected. CMB polarization space missions in the planning stage include CORE+, LiteBIRD, and PIXIE. Science goals for all these missions include the detection and characterization of inflation and the characterization of the reionization epoch. CORE+ and LiteBIRD are imaging telescopes with sub-Kelvin superconducting focal-plane detector arrays with several thousand detectors. PIXIE is a two-beam differential spectrometer that will measure the Planck spectrum of the CMB in addition to searching for inflation.

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