

Abstract Submitted
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Cosmic Microwave Background Polarization: Status and Experimental Prospects EDWARD J. WOLLACK, NASA Goddard Space Flight Center — The faint signatures encoded in the cosmic microwave background (CMB) radiation have provided a powerful means to constrain the physical state of the early Universe. Advances in instrumentation, observation, and analysis techniques have led to the recent detections of B-mode polarization associated with gravitational lensing by several groups. A host of experimental efforts – including the Planck satellite, balloon-borne instrument platforms, and ground-based telescopes – have pending results that will undoubtedly provide greater clarity to this rapidly emerging field. Detailed characterization of the cosmic microwave background’s subtle B-mode polarization signature provides an exciting prospect to place stringent limits on the properties of light astroparticle species and large scale gravity waves, as well as experimentally confront the inflationary cosmology paradigm. Anticipated near-term research progress will be summarized and followed by highlights from the “Cosmology with the CMB and its Polarization” workshop. Future directions for spaceborne polarimetry missions of interest to the Inflation Probe Science Interest Group (IPSIG) will be discussed.

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