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The Cosmic Microwave Background and its Polarization ED-WARD WOLLACK, NASA/GSFC — The subtle spatial variations in the cosmic microwave background (CMB) radiation provide a unique astrophysical probe of the early Universe. Characterization of this relic radiation and its polarization have the power to reveal and constrain the properties of light astroparticle species, long wave gravitational radiation, and intervening mass concentrations. Recent advances in theory, observation, and instrumentation have set the stage to experimentally confront the inflationary paradigm via precision polarimetric surveys of the CMB. Current and proposed future observational efforts from the ground, balloon, and spaceborne platforms will be briefly surveyed in this presentation. Recent community activities by the Inflation Probe Science Interest Group (IPSIG) will also be presented.

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