The Cosmology Large Angular Scale Surveyor

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The Cosmology Large Angular Scale Surveyor (CLASS) is a new experiment to observe the polarization of the Cosmic Microwave Background (CMB) with the primary science goal of detecting the gravitational waves generated in the earliest moments of our universe. CLASS is unique among CMB polarimetry experiments in its frequency and angular scale coverage, designed to maximize sensitivity to the primordial gravitational wave signal at the largest angular scales and with frequency span to reject both dust and synchrotron foreground emission. The CLASS instrument is an array of four telescopes with observing bands centered at 38, 93, 148 and 217 GHz. This set of bands straddles the foreground minimum. The CLASS survey will cover 70% of the sky, providing sensitivity to primordial B-modes from recombination and reionization on the largest angular scales. The stability required to reach the largest scales is achieved through the use of variable-delay polarization modulators (VPM) at the front-end of each telescope, an arrangement that enables the rejection of atmospheric and instrumental contamination. CLASS has begun observations with the 38 GHz telescope and will be deplying two 93 GHz band telescopes and a dichroic 150/220 GHz telescope over the next two years. This presentation will describe the CLASS experiment design, receivers, and current state.