

Abstract Submitted
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The Cosmology Large Angular Scale Surveyor (CLASS): instrument and survey status¹ JOSEPH EIMER, Johns Hopkins Univ, CLASS COLLABORATION² — The Cosmology Large Angular Scale Surveyor (CLASS) is an array of four telescopes that observes the polarization of the cosmic microwave background from the Atacama Desert in Chile. From this site, CLASS surveys 70% of the sky at four frequency bands centered at 38, 93, 148, and 217 GHz respectively. By targeting the polarized signal on the largest scales, CLASS uniquely aims to characterize the E and B-mode power spectra on both the reionization and recombination scales. Simulations, including systematics and foregrounds, have shown the CLASS strategy of combining large sky coverage, front-end polarization modulation, and high sensitivity enables characterization of inflationary gravitational waves at all relevant angular scales to the $r=0.01$ level, measurements of the optical depth to reionization to the cosmic-variance-limit, and improved constraints on the mass of neutrinos. The first telescope of the CLASS array, observing at 38 GHz, achieved first light in May 2016. Here I review the objectives, strategy and architecture of the CLASS experiment and give an update on the survey.

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²Cosmology Large Angular Scale Surveyor (CLASS)

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