

Abstract Submitted
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W-band Measurement of Cosmic Microwave Background Polarization with QUIET MAKOTO NAGAI, High Energy Accelerator Research Organization (KEK), QUIET COLLABORATION — QUIET is a ground-based experiment designed to detect B -modes in the CMB polarization induced by primordial gravitational waves created during the inflation era. QUIET employs coherent receivers and assembles them into two large arrays, with 19 modules for the Q band (43 GHz) and with 90 modules for the W band (95 GHz), respectively. The telescope was located on the Chajnantor plateau, Chile at an altitude of 5,080 m. We started the operation since 2008 October to observe CMB in the four fields of the sky. After the operation in Q band, we have collected 5,275 hours of CMB data in W band from 2009 July to 2010 December. W-band data has better spatial resolution and less foreground contamination than Q-band data. In this talk, I will present our status of the W-band analysis with one of our two analysis frameworks, based on pseudo- C_l estimator. The analysis essentially follows the steps of calibration, data selection, and power spectra estimation. We also require to pass suites of null tests and to complete a sophisticated systematics study as validation, before looking at the results: the EE , BB , and EB powers. We expect that the robust analysis strategy provides us the least systematic errors as well as one of the best results for the B -mode measurements.

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