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Current Status of QUIET COLIN BISCHOFF, University of Chicago, QUIET COLLABORATION — QUIET (the Q/U Imaging ExperimenT) is designed to measure the Cosmic Microwave Background polarization on large angular scales using sensitive HEMT-based polarimeters. The experiment targets the signature on the CMB of gravitational waves generated during inflation, known as B-mode polarization. Observations were made from October 2008 through May 2009 using a 19-element 40 GHz instrument coupled to a 1.4 meter telescope located at the Chajnantor Observatory in Chile. Observations with a 90-element 90 GHz instrument on the same telescope are ongoing. We describe the status of analysis of the 40 GHz data and the current 90 GHZ observations. At both frequencies, we target four patches totaling $\sim$1000 square degrees and chosen to have low foreground contamination. The current phase of QUIET will provide precise measurements of the E-mode polarization power spectrum and improve upper limits on B-modes for angular scales up to $\ell = 1000$. Meanwhile, planning is underway for the second phase of QUIET, which will increase the number of detector by an order of magnitude to reach the level of sensitivity necessary to detect B-mode polarization.

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