

Abstract Submitted  
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**Final Results from Three Years of Observations with the BICEP Telescope** COLIN BISCHOFF, Harvard-Smithsonian Center for Astrophysics, BICEP COLLABORATION — The BICEP (Background Imaging of Cosmic Extragalactic Polarization) telescope is the first instrument designed specifically to search for the signature of inflation using the polarization of the Cosmic Microwave Background at degree angular scales. BICEP combines polarization sensitive bolometers, operating at 100 and 150 GHz, with a small aperture cryogenic refracting telescope. It operated for three seasons from 2006 through 2008 at the Amundsen-Scott South Pole Station. Results from the first two seasons, published in Chiang et al. (2010), have so far provided the tightest upper limits on B-mode polarization of the CMB. We report on new results that incorporate the full three year data set to improve this constraint. Besides including more data, the new analysis uses a novel method to deproject the dominant source of systematic contamination in BICEP data. The successful design of BICEP is the basis of BICEP2, which operated at the South Pole from 2010 through 2012, and the Keck Array, which began observations in 2011 and is still operating. These experiments are currently producing extremely deep maps of CMB polarization.

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