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Probing Cosmic Inflation with BICEP Array

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Abstract

The theory of cosmic inflation posits that the universe underwent a period of rapid expansion in the first fractions of a second following the Big Bang. Inflation solves multiple issues in modern cosmology, but the search for direct evidence is ongoing. The detection of B-mode polarizations in the cosmic microwave background would serve as strong evidence of inflation and constrain the theory space of different inflation models. These B-modes are the target of BICEP Array, the latest in the BICEP/Keck series of experiments, which observes the CMB from the South Pole with an array of small aperture receivers. In this talk, I discuss the theoretical motivation for inflation, the BICEP/Keck observing strategy and results to date, and the current state of BICEP Array.

