

Broad Spectrum Noise Sources for Calibration of the BICEP/Keck CMB polarimeters

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The BICEP/Keck telescopes are a suite of CMB polarimeters located at the South Pole searching for evidence of inflationary gravitational waves. We invest much of our effort in acquiring high-fidelity calibrations of the optical performance to mitigate systematics in our results. To that end, we map far-field optical response using ground-based, non-thermal, finely-polarized Broad Spectrum Noise Sources (BSNS). We have so far constructed four BSNS's each operating at a different center frequency of 95GHz, 150GHz, 220GHz, and most recently 35GHz for use on the new BICEP Array receiver. In this presentation, I will discuss BSNS theory of operation, report on their performance, and discuss the various calibrations in which the BSNS's are used.

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