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Physics and Astronomy

Constructing an Apparatus to Test the EBEX Polarimeter

The E and B mode Experiment (EBEX) is a balloon-borne polarimeter that will attempt to find direct evidence of inflationary theory by measuring the polarization of the Cosmic Microwave Background (CMB) radiation. My research consists of constructing an apparatus to test the EBEX polarization modulator, an achromatic half wave plate (AHWP) that levitates above a high temperature superconducting magnetic bearing. The AHWP is the first of its kind to be used in a balloon-borne experiment and results of this project have led to changes in the bearing warm support design.



Poster Number: Session: