Argonne NATIONAL LABORATORY

HEP Special Seminar

High Energy Physics Special Seminar

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Caltech

"Measuring the Polarization of the Cosmic Microwave Background with BICEP3"

Host: Amy Bender

February 27, 2019
1:00 p.m.- 2:00 p.m.
Building 360/A-224

Abstract:
The inflationary scenario generically predicts the existence of primordial gravitational waves, which would leave an unique degree scale B-mode polarization pattern in the Cosmic Microwave Background. The BICEP/Keck (BK) experiment is a series of telescopes located at the Amundsen Scott South Pole Station designed to measure this signature. BICEP3 is the latest instrument in the BK program, started its science observations in March 2016. It is a 550mm aperture refractive telescope observing the polarization of the cosmic microwave background at 95 GHz. I will give an overview of the design and current status of the telescope, including various instrument and systematic performances. I will also talk about the BICEP Array, comprise of four BICEP3 like receiver observing from 30 to 270GHz which is expected to replace the Keck Array starting in 2019.

The HEP Special Seminar Schedule can be viewed at:
https://indico.fnal.gov/category/800/