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HEP Seminar

High Energy Physics Division Seminar

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"Maximizing Dark Energy Constraints from Next Generation Cosmic Microwave Background Cluster Surveys "

Host: Tom LeCompte

February 12, 2020 – 11:00 a.m.-12:00p.m. Building 362/F-108

Abstract:

This is a seminar to discuss an early career proposal for maximizing cosmological constraints with galaxy clusters from next generation surveys.

The next generation of cosmic microwave background (CMB) experiments will discover over 100,000 distant galaxy clusters, opening a new window into the high-redshift universe and the behavior of Dark Energy. With these new discoveries come new challenges; I propose an ambitious experimental- and simulation-based program that will maximize the cosmological utility of this new data set. This program focuses on two key areas: (1) a multiwavelength characterization of CMB-selected clusters to robustly model cluster selection and mass calibration and (2) leveraging this well-characterized sample to improve constraints from clusters selected across all wavelengths, particularly focusing on enhancing the joint constraining power of clusters from the LSST, DESI, and CMB-S4 surveys.

The HEP Division Seminar Schedule can be viewed at:
https://indico.fnal.gov/event/23258/