Department of Theoretical Physics

Ritoban Basu Thakur
University of Chicago / KICP

Development of instrumentation for CMB measurements with the SPT-3G and CMB Stage-4 experiments

Monday, 13 February 2017, 10:00
Room A304

The 3rd Generation South Pole Telescope (SPT 3G) will measure the Cosmic Microwave Background (CMB) in three frequency bands with over 15000 polarization sensitive superconducting bolometers. With SPT-3G we will probe essential Physics of the early universe, perhaps the most important ones being: B-modes from inflationary gravitational waves, total mass of neutrinos and the neutrino mass hierarchy. I will discuss the design of SPT-3G, provide an overview of ongoing work and highlight the science cases. I will further discuss some offshoots of the SPT-3G efforts, which are aimed at the even more ambitious Stage-4 CMB experiments currently under planning and which will operate 500,000 detectors.

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