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## Exploring the Microwave Sky with the South Pole Telescope

*Thursday, 21 September 2023 11:00 (30 minutes)*

The South Pole provides one of the most pristine sites on Earth for observations of the microwave sky, enabling studies of a host of astrophysical and cosmological phenomena. The South Pole Telescope (SPT), online at Amundsen-Scott South Pole Station since 2007, takes advantage of the stable desert climate to image the sky with unprecedented sensitivity. The third-generation camera, SPT-3G, is composed of over 16,000 polarized superconducting detectors with sensitivity in three microwave frequency bands that bracket the peak emission from the Cosmic Microwave Background (CMB) at 150 GHz. Multi-frequency observations with SPT-3G enable studies of the primordial universe and its evolution via the CMB, as well as characterization of astrophysical sources of microwave emission, such as stars, galaxies and clusters. In this talk, I will review the SPT science program, focusing on recent and upcoming results in cosmology and astrophysics from the SPT-3G camera. I will also describe our observing plans for upcoming seasons, as well as how SPT fits in to the greater cosmology community at the South Pole with the BICEP and CMB-S4 telescope programs.

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