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## The Simons Observatory: Small Aperture Telescopes

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The Simons Observatory (SO) is a future cosmic microwave background (CMB) experiment located on Cerro Toco, Chile that will map the microwave sky in temperature and polarization in six frequency bands spanning 27 to 280 GHz. SO will consist of one 6-meter Large Aperture Telescope (LAT) fielding approximately 30,000 detectors along with an array of three 0.5-meter Small Aperture Telescopes (SATs) fielding another 30,000 detectors. This synergistic combination will allow for extremely sensitive characterization of the CMB over angular scales ranging from an arcmin to tens of degrees, enabling a wide range of scientific output. In this presentation, we focus on the SAT program targeting large angular scales from  $\approx 10\%$  of the sky with successive dichroic instruments observing at Mid-Frequency (MF: 93 and 145 GHz), Ultra-High-Frequency (UHF: 225 and 280 GHz), and Low-Frequency (LF: 27 and 39 GHz). This configuration will enable maps of white noise level  $\approx 2 \mu\text{K-arcmin}$  in combined 93 and 145 GHz bands, and characterization of the CMB as well as galactic foregrounds (primarily dust and synchrotron), with a primary science goal of characterizing the primordial tensor-to-scalar ratio,  $r$ , at a target level of  $\sigma(r) = 0.003$ . We will summarize the SAT program scientific objectives, observation strategy, instrument design, and provide an update on current status.

### **Student (Ph.D., M.Sc. or B.Sc.)**

N

### **Less than 5 years of experience since completion of Ph.D**

Y

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