Contribution ID: **92** Type: **Parallel talk**

The Simons Observatory Small Aperture Telescopes

Monday 28 August 2023 14:30 (15 minutes)

The Simons Observatory (SO) is a cosmic microwave background (CMB) survey experiment located in the Atacama Desert in Chile at an elevation of 5200 meters, consisting of an array of three 0.42-meter small aperture telescopes (SATs) and one 6-meter large aperture telescope (LAT). SO will make accurate measurements of the CMB temperature and polarization spanning six frequency bands ranging from 27 to 285 GHz, fielding a total of 60,000 detectors covering angular scales between one arcminute to tens of degrees. In this talk we focus on the SATs, which are tailored to search for primordial gravitational waves, with the primary science goal of measuring the primordial tensor-to-scalar ratio r at a target level of ⍰(r) ≈ 0.003. We discuss the design drivers, scientific impact, and current deployment status of the three SATs, which are scheduled to start taking data in the coming year. The SATs aim to map 10% of the sky at a 2 μK-arcmin noise level observing at Mid-Frequencies (93/145 GHz), with additional Ultra-High-Frequency (225/285 GHz) and Low-Frequency (27/39 GHz) targets to yield galactic foreground-subtracted measurements.

Submitted on behalf of a Collaboration?

Yes

Author: MANGU, Aashrita (Simons Observatory/UC Berkeley/LBNL, United States)

Presenter: MANGU, Aashrita (Simons Observatory/UC Berkeley/LBNL, United States)

Session Classification: Cosmology and Particle Physics

Track Classification: Cosmology and Particle Physics