



MAPPING THE COSMOS WITH THE SIMONS OBSERVATORY

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Prevailing theories of cosmology rely on precise measurements of the cosmic microwave background (CMB) to better constrain model parameters. In order to tighten these uncertainties, future CMB surveys must achieve higher map depth through improved instrument sensitivity. The Simons Observatory (SO) is a CMB survey currently under development, located at an elevation of 5200 m in the Atacama Desert of Chile. SO consists of an array of six Small Aperture Telescopes (SATs) and one Large Aperture Telescope (LAT), fielding over 140,000 detectors in total. To this point, SO will require an automated data processing pipeline that can handle the large volume of observational data, while efficiently incorporating calibration and data cleaning techniques. In this talk, I will discuss the observational motivation for SO, the design and validation process of the SO LAT, and the development of the data reduction pipeline.