V148c **Large Submillimeter Telescope (LST): 2) Specification, Operation Conditions, and Optics**

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We report on the specifications and optics of the Large Submillimeter Telescope (LST), a large aperture (D = 50m) single-dish telescope optimized for wide area imaging and spectroscopic surveys in a frequency range of 70 – 420 GHz. The surface should have an accuracy of 45 μm (rms) in total or better under a normal nighttime operation condition (when a wind velocity is less than 10 m/s). Ritchey-Chretien optics will be essential in order to achieve a wide field of view of 0.5 deg^2 (up to 1 deg^2) which is required to conduct extremely large area (>a few 100 – 1000 deg^2) cosmological deep surveys. The LST will have 3 receiver cabins, i.e., 2 Nasmyth foci and a Cassegrain focus, to accommodate a couple of the proposed state-of-the-art instruments, including wide-field multi-band continuum camera utilizing TES and/or MKID technologies under development in NAOJ and other institutes, large format heterodyne receiver arrays based on the experience of ALMA receiver development in NAOJ, and ultra wide-band multi-object spectrograph whose concept is being tested by DESHIMA and MOSAIC proposed by Delft University of Technology and SRON.