

THE LARGE MILLIMETER TELESCOPE

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We present a summary of the Large Millimeter Telescope (LMT) Project and its present status. The LMT is a 50m-diameter millimeter-wave antenna which has been designed for best performance in the 1-4mm band. The telescope is being built in a collaboration between the University of Massachusetts at Amherst (UMass) in the USA and the Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE) in Mexico. The LMT site is Volcan Sierra Negra, an extinct volcanic peak in the state of Puebla, Mexico, approximately 100 km east of the city of Puebla. Erection of the antenna at the site is now well underway, and it is expected to be completed in early 2006. The LMT will have nearly 2000 m² of collecting area with an overall surface accuracy of 70 microns rms. Thus, its sensitivity will exceed that of existing millimeter-wavelength telescopes by a significant margin. As a completely filled aperture, the LMT will have the optimum sensitivity to low surface brightness emission at an angular resolution of 6-12 arcsec, which is comparable to that of the maps presently made with present interferometric arrays. Consequently, we expect the LMT to take a valuable place in the world's complement of millimeter-wave facilities.

