

Abstract Submitted  
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**The Large Synoptic Survey Telescope Project** DAVID GILMORE,  
Stanford/SLAC/KIPAC — The prime goal of LSST is a precision measure of the nature of dark energy through a suite of techniques using a homogeneous imaging dataset. Central of these is weak lens shear of galaxy shapes to  $z=3$  by mass at  $z<3$ , giving a unique probe of dark energy. This will be done through a combination of deep-wide multi-band imaging data over 20,000 sq.deg. in a weak lensing survey of unprecedented sensitivity, volume and quality. LSST will be a large, wide-field groundbased telescope designed to obtain sequential images of the entire visible sky every few nights. The optical design involves a 3-mirror system with an 8.4 m primary, which feeds three refractive correcting elements inside a camera, providing a 10 square degree field of view sampled by a 3 Gpixel focal plane array. The total effective system throughput,  $A\Omega = 318 \text{ m}^2 \text{ deg}^2$ , is nearly two orders of magnitude larger than that of any existing facility. The survey will yield contiguous overlapping imaging of 20,000 – 23,000 square degrees of sky in 6 optical bands covering the wavelength regime 350–1100 nm.

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