The 3.2 Gpixel Camera on the Large Synoptic Survey Telescope (LSST)

Steven M. Kahn
Kavli Institute for Particle Astrophysics and Cosmology, Stanford University

The Large Synoptic Survey Telescope (LSST) is a large-aperture, wide-field ground-based telescope designed to survey the entire visible sky every few nights. The database acquired by LSST will enable an array of diverse scientific investigations ranging from studies of moving objects in the solar system to constraints on the properties of dark energy derived from weak gravitational lensing. The LSST camera will likely become the largest digital imager in the world when it is constructed. It will involve an array of 200 4k x 4k sensors with a diameter of 60 cm. I will describe the key elements of the LSST camera design, starting with science requirements, and including all of the major subsystems. The development of the LSST camera is now being pursued by a large collaboration involving both astrophysicists and high energy physicists at three national laboratories, and a number of universities. With appropriate funding from NSF and DOE, we hope to achieve "first light" late 2012 or early 2013.