

The Dark Energy Camera - a New Instrument for the Dark Energy Survey

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The discovery that the universe is accelerating, not slowing down from the mass it contains, is the surprise that sets the initial research program of 21st Century cosmology. The Dark Energy Survey (DES) is a next generation sky survey aimed directly at understanding this mystery. DES is designed to measure the dark energy equation of state parameter with four complementary techniques: galaxy cluster counts, weak lensing, angular power spectrum and type Ia supernovae. We present an overview of the DES instrument (DECam) which will be mounted at the prime focus of the Blanco 4m telescope at CTIO. DECam includes a 3 square degree focal plane covered by 62 2kx4k CCDs, a five element optical corrector, up to eight filters, a modern readout and control system, and the associated infrastructure for operation in a new prime focus cage. We will use the 250 micron thick fully-depleted CCDs developed at Lawrence Berkeley National Laboratory (LBNL). DECam also includes design features to enhance the image quality and the efficiency of operations. DECam will be devoted to the DES for 30% of the time over five years and will otherwise be available to the community as an NOAO facility instrument. We will review the status of the construction of the instrument highlighting the results of this summer's full scale integration tests.

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