

# DES Science Verification

*Friday, 16 August 2013 14:54 (24 minutes)*

Starting this September the Dark Energy Survey collaboration will use 525 nights over five years with the Blanco 4-m telescope at CTIO to image 5000 square degrees of the sky in five optical filter bands. The primary science goal is to understand the properties of dark energy using four complementary techniques: galaxy cluster counts, weak lensing, angular power spectrum and type Ia supernovae. The combination of these methods will lead to significant improvements of the figure of merit defined by the Dark Energy Task Force. The Dark Energy Camera, a new 570 megapixel CCD camera, was installed on the telescope August 2012 and on-sky commissioning took place in September and October. This was followed by an extensive science verification period that lasted until the end of the DES observing time in February 2013. The purpose of this effort was to establish that the instrument, telescope, and data handling systems were producing imaging data of sufficient quality to execute the Dark Energy Survey. An additional goal was to test and improve operational efficiency so that the DES collaboration can make optimal use of its allocated time once the survey starts. For a total of 23 nights and 57 half nights we operated DECam and collected imaging data to assess the delivered image quality, the photometric calibration, and the long term stability of key parameters such as the readout noise, gain and linearity. We will discuss the lessons learned during science verification and present initial results.

## APS member ID

60031070

**Primary author:** Prof. HONSCHEID, Klaus (Ohio State University)

**Presenter:** Prof. HONSCHEID, Klaus (Ohio State University)

**Session Classification:** Cosmic Frontier

**Track Classification:** Cosmic Frontier