

The Dark Energy Survey: a vast dataset for cosmology astronomy



KEYWORDS: Cosmology; dark energy; galaxy survey

SUMMARY: The Dark Energy Survey (DES) is a state-of-the-art photometric galaxy survey designed to constrain dark energy and other cosmological parameters from multiple probes. DES surveyed $\sim 5,000$ square degrees of southern extragalactic sky over 6 years in bands Y, g, r, i, z to a depth of $i = 23.8$ for point sources at signal-to-noise ≥ 10 . At the same time, specific deep fields (30 square degrees) have been observed every few days to a cumulative depth of $i = 25.0$. The survey was conducted from the Victor Blanco Telescope at Cerro Tololo in Chile. The main cosmological results from the survey are already public (DR2). The main goals of this session are: 1- To report the main results from the final data release of the Dark Energy Survey, with a particular focus on the Spanish contributions; 2- To foster synergies between the astronomical and cosmological communities; 3- To train the community on how to use the public database from DES; 4- To discuss the opportunities offered by the next generation of cosmological surveys; 5- To settle a precedent for collaboration between Spanish and Chilean communities through cosmological experiments and beyond.

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