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Dark Energy Survey releases first data catalogs

Madrid, Wednesday 20 January 2016. The Dark Energy Survey (DES) has released its first catalog of data. The survey uses the Blanco 4-meter telescope at Cerro Tololo Inter-American Observatory in Chile, with a specially built 570-Megapixel digital camera known as DECam. DES has been running since August 2013, but the first data which was taken before the official start between November 2012 and February 2013 has been released in the 'Science Verification' catalogs.

These catalogs are just 3% of the final survey area and contain 25 million objects. The data has already been used in research published by the collaboration, including IFT members, in the group of Prof. Juan Garcia-Bellido.

The Dark Energy Survey is now in its third year of capturing images of the cosmos with its primary instrument, the Dark Energy Camera. Before the survey proper began in August 2013, however, scientists spent months testing the camera, putting it through its paces.

Now, catalogs of galaxies and stars derived from the data collected during that Science Verification season (November 2012 to February 2013) have been released to the public. Astronomers and astronomy buffs can download the data from the website for the National Center for Supercomputing Applications at the University of Illinois, which manages the processing of all the images taken for the Dark Energy Survey.

This is good news for the astronomy community, as the catalogs released last week contain measurements of more than 25 million objects. Scientists on the Dark Energy Survey have used this data to, among other things, create the largest-yet dark matter mass map. The Science Verification data covers only 3 percent of the survey area (itself roughly one-eighth of the sky), so there is much more to come.

The Dark Energy Survey is a five-year effort to map that survey area in unprecedented detail. Scientists will use the data collected to probe the phenomenon of dark energy, the mysterious force that makes up about three-quarters of the universe. The Dark Energy Camera was built and tested at Fermilab and is mounted on the Blanco telescope at the National Optical Astronomy Observatory's Cerro Tololo Inter-American Observatory in Chile.

The Dark Energy Survey is a collaboration of more than 300 scientists from 25 institutions in six countries. Funding for DES projects is provided by the U.S. Department of Energy Office of Science, the National Science Foundation, and other funding agencies.

The data is available for download here.

SOBRE el IFT UAM-CSIC

El Instituto de Física Teórica (IFT) UAM-CSIC fue creado oficialmente en 2003 como un centro mixto perteneciente al Consejo Superior de Investigaciones Científicas (CSIC) y a la Universidad Autónoma de Madrid (UAM). Es el único centro Español dedicado íntegramente a la investigación en Física Teórica. En el IFT se trabaja en la frontera de la Física de Partículas Elementales, Astropartículas y Cosmología, con el objetivo es entender las claves fundamentales de la Naturaleza y del Universo. Sus investigadores lideran numerosos proyectos de investigación en el ámbito tanto nacional como internacional. El IFT forma parte de la línea estratégica `Física Teórica y Matemáticas´ del Campus de Excelencia Internacional (CEI) UAM+CSIC establecido en 2009. Desde 2012, está acreditado como Centro de Excelencia Severo Ochoa. Además de la actividad puramente científica, en el IFT se realiza una intensa tarea de formación de jóvenes investigadores y profesionales a través del programa de postgrado en Física Teórica con Mención de Excelencia del CEI y del Ministerio de Educación. También se lleva a cabo una importante labor transferencia de conocimiento a la sociedad a través de diversos programas de divulgación.

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