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Euclid: performance on main cosmological parameter science

Euclid will observe 15000 deg² of the darkest sky that is free of contamination by light from our Galaxy and our Solar System. Three “Euclid Deep Fields” covering around 40 deg² in total will be also observed extending the scientific scope of the mission the high-redshift universe. The complete survey represents hundreds of thousands images and several tens of Petabytes of data. About 10 billion sources will be observed. With these images Euclid will probe the expansion history of the Universe and the evolution of cosmic structures by measuring the modification of shapes of galaxies induced by gravitational lensing effects of dark matter and the 3-dimension distribution of cosmic structures from spectroscopic redshifts of galaxies and clusters of galaxies. This talk will present the implications for cosmology and cosmological constraints of this unprecedented data set. Of particular interest are expected constraints on neutrino properties, neutrino masses and the nature of dark energy.

Secondary track

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