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Cosmological constraints from the Dark Energy Spectroscopic Instrument

The Dark energy Spectroscopic Instrument (DESI) is measuring spectra of millions of distant galaxies and quasars over a five-year period that started in spring 2021. A 3D map of the universe is built from the observations

and statistical methods applied to this map allows to place strong constraints on the underlying cosmological Model. The main probe used in the data analysis is the baryonic acoustic oscillation that induces a characteristic

distance of separation between galaxies. This distance is measured across cosmic history and provides a measurement

of the history of the universe expansion. I will present the results based on the first three years of observations and

their impact on cosmology and in particular on the nature of dark energy and on the sum of neutrino masses.

Secondary track

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