

DESI Peculiar Velocity Survey - Year 1 Fundamental Plane

Monday 3 February 2025 11:20 (20 minutes)

In this talk I will present some of the peculiar velocity measurements from the first year of observations from the Dark Energy Spectroscopic Instrument (DESI) which will be used alongside redshift space distortion measurements to constrain the growth rate of structure. Over five years DESI is using a 5000 fibre spectrograph to map 3D positions of tens of millions of galaxies. At the same time we are using the “Fundamental Plane” technique to measure peculiar velocities for about 375,000 early-type galaxies. This sample will be the largest peculiar velocity sample to date, dwarfing the state-of-the-art SDSS catalogue of ~30,000 peculiar velocities. I will describe the data collection and analysis pipelines, as well as presenting our peculiar velocity measurements for ~100,000 galaxies in Data Release 1, including analysis of the robustness of our results to selection criteria and our choices for correction parameters.

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