DESC workshop on cosmology with peculiar velocities, Marseille, 22-26/09/2025



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DESI DR1 Fundamental Plane Peculiar Velocity Catalogue

The Dark Energy Spectroscopic Instrument (DESI) Peculiar Velocity Survey aims to provide measurements of the growth rate of structure and the Hubble constant in our local universe. To do so the survey, over the course of its 5 years of operations, aims to measure peculiar velocities for over 186,000 galaxies using both the Fundamental Plane and Tully Fisher relations. In this talk I will present the Fundamental Plane catalogue for Data Release 1 which contains peculiar velocities for 98,000 early-type galaxies observed during the first year of the survey. I will describe our data collection and analysis pipelines — from measuring stellar velocity dispersions from DESI spectra through to our final fundamental plane calibration and peculiar velocity results — as well as discuss key systematics identified during our analysis and how these relate to the robustness of our results.

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