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## DESI Peculiar Velocity Survey and the DR1 Fundamental Plane sample

*Monday 8 September 2025 11:00 (40 minutes)*

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. Additionally, these peculiar velocity catalogues will be used to build density reconstruction maps which can be used to study the galaxy velocity field and underlying dark matter distribution. In this talk I will present the work being conducted by the DESI Peculiar Velocity Survey with a particular focus on the Fundamental Plane sample and its uses in cosmology. With Data Release 1 the sample contains peculiar velocities for 98,000 early-type galaxies making it the largest existing sample of peculiar velocities and potentially resulting in the tightest constraints on the growth rate of structure at  $z < 0.1$ , to date.

### References

<https://doi.org/10.1093/mnras/staf700>

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