

# Optimising 4MOST survey strategy for peculiar velocity surveys

*Monday 3 February 2025 09:50 (20 minutes)*

4MOST is a next-generation survey that will start operating in 2025 and will carry out a five-year survey program. 4MOST consists of 18 individual surveys that will be operationally carried out as a single survey. Among those 18 surveys, there are specific peculiar velocity subsurveys that will significantly extend currently available catalogues of peculiar velocities. To optimise the 4MOST survey strategy for peculiar velocity surveys requires special attention to maximise the scientific benefit. For example, 4MOST will follow up supernovae detected by the LSST, which requires that LSST and 4MOST survey strategies are aligned. In the 4MOST survey optimisation this is taken into account in the 4MOST long-term scheduler algorithm.

In the current talk, I will give a brief overview of the 4MOST survey optimisation. I will more specifically describe how 4MOST survey strategy is optimised for the peculiar velocity surveys.

References:

- 1) Tempel et al. 2020, MNRAS, “An optimized tiling pattern for multiobject spectroscopic surveys: application to the 4MOST survey”
- 2) Tempel et al. 2020, A&A, “Probabilistic fibre-to-target assignment algorithm for multi-object spectroscopic surveys”
- 3) Tempel et al. in prep, “Long-term scheduler algorithm for the 4MOST survey”

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