

## Cosmic Flows : from datasets to cosmology

*Monday 3 February 2025 15:30 (30 minutes)*

We use direct galaxy distances to compute the 3D peculiar/gravitational velocity field, enabling us to reconstruct the mass distribution driving these motions. Filaments, walls, and voids are integrated into a broader view of large-scale gravitational structures defined by empty regions. The key benefit of mapping superclusters as watershed basins is their robust definition, making them reliable cosmological probes. We will present the latest dynamic map with five newly charted supercluster-watersheds neighboring Laniakea. Additionally, we will discuss measurements related to the cosmological principle of homogeneity and gravitational law : bulk flow,  $f\sigma_8$  and  $H_0$ . We will discuss the analysis of new datasets such as FAST-DR1, WALLABY Pilot data, DESI-PV-DR1, and the future 4HS.

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