

## HoDpipe: re-creating a realistic Universe

*Tuesday, 17 September 2024 11:10 (20 minutes)*

In the era of Stage IV galaxy surveys, model testing and validation with numerical simulations is crucial to obtain accurate and unbiased estimates of the cosmological parameters. To this end, the generation of realistic galaxy mock catalogs that faithfully reproduce the measurable properties of the observed sky is of utter importance.

In this talk, I will present HoDpipe, a new tool to generate quick galaxy mocks replicating a number of properties given as inputs.

HoDpipe is fast and flexible: it implements different Halo Occupation Distribution (HOD) models, halo density profiles, assembly and velocity biases and can predict galaxy and clustering properties, redshift distributions and correlation functions.

HoDpipe can be used to generate galaxy mocks to test theoretical models, as a benchmark for analytical covariance calculations and as a validation tool for approximate methods.

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