Institute of Space Sciences

EXCELENCIA MARÍA DE MAEZTU

Contribution ID : **20** Type : **Talk**

Testing Euclid clustering-redshifts calibration with the Flagship 2 simulation.

Thursday, 18 April 2024 15:05 (10)

The precision of cosmological constraints derived from key observations in the Euclid imaging survey hinges on accurately measuring the first moments of the true redshift distributions of tomographic redshift bins, particularly their mean redshifts. A promising approach for achieving this is the clustering-redshifts technique, which relies on the angular cross-correlation between a target galaxy sample with unknown redshifts and a reference sample with spectroscopic redshifts. Such spectroscopic samples will be available from surveys such as DESI, 4MOST, or Euclid.

In our study, we generate photometric Euclid and spectroscopic mocks using the Flagship 2 simulation and optimise the clustering-redshifts algorithm for redshifts up to z = 1.8. We meticulously test each theoretical assumption, aiming to pinpoint primary systematics and sources of biases, and propose corrective measures. Our findings suggest that clustering redshifts prove highly effective for Euclid redshift calibration, provided that systematic biases can be identified, eliminated, or adequately addressed through realistic simulations.

Primary author(s) : D'ASSIGNIES, William (IFAE)

Presenter(s) : D'ASSIGNIES, William (IFAE)

Session Classification : Photo-Z