ID de Contribution: **28**   Type: **Non spécifié**

Precise Weak-Lensing Cosmology with imprecise redshifts: Euclid preparation and DES 'finalisation'

lundi 28 octobre 2024 14:30 (20 minutes)

The precision of cosmological constraints derived from key observations in imaging surveys hinges on accurately measuring the true redshift distributions of tomographic redshift bins, particularly their mean redshifts. Two approaches are commonly used. One involves using photometry with spectroscopic (or deep-photometry) counterparts. This approach is based on matching the fluxes of photometric subsamples and extrapolating them to the full sample (e.g., via SOM).
The other approach involves comparing sky distributions through angular clustering: the redshift distribution of a photometric sample is inferred by cross-correlating it at small angles with spectroscopic data localised in narrow redshift bins.

I will begin the presentation with concrete examples of the impact of photo-z on the 3x2-point analysis. I will then present aspects of the DES Y6 redshift pipeline, particularly how these two approaches are used together to provide robust estimates. Additionally, I will discuss the ongoing work on the Euclid pipeline, which benefits from a greater availability of spectroscopic data.

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Classification de Session: Présentations