ID de Contribution: **1** Type: **Non spécifié**

High-redshift LBG selection from broadband and wide photometric surveys using a Random Forest algorithm

jeudi 28 novembre 2024 09:50 (20 minutes)

Lyman-Break Galaxies (LBGs) are promising tracers for exploring the properties of dark energy in the high-redshift Universe. In light of DESI-II, the extension of the current Dark Energy Spectroscopic Instrument (DESI) that will start in 2029, the role of broadband-wide photometric surveys such as UNIONS or the Vera C. Rubin LSST is essential to design the optimal selection of these $z \geq 2$ tracers. In this work, we explore the feasibility of selecting LBGs using a Random Forest approach in the redshift range $2.5 < z < 3.5$, using existing deep imaging data from HSC and CLAUDS (u, g, r, i, and z bands) degraded to the UNIONS depth. For a target density budget of $1,100$ deg^{-2}, we expect from this work a density of spectroscopically confirmed LBGs of 490 deg^{-2}. Our UNIONS-like target selection was tested during a dedicated DESI observation campaign on the COSMOS field, providing a safe spectroscopic sample of 460 targets with a mean redshift of 3. This sample is then used to derive forecasts for DESI-II. This talk is based on the paper arXiv:2410.08062, recently submitted to JCAP.

Auteur principal: PAYERNE, Constantin (CEA/DPhP/Irfu)

Orateur: PAYERNE, Constantin (CEA/DPhP/Irfu)

Classification de Session: Science talks