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One-dimensional power spectrum from first DESI Lyman-alpha forest samples

jeudi 17 novembre 2022 15:40 (20 minutes)

I will present the one-dimensional Lyman-alpha forest power spectrum measurement using the first data provided by the Dark Energy Spectroscopic Instrument (DESI) (Ravoux et al. in prep.). The data sample comprises quasar spectra at redshift z > 2.1, contained in the DESI Early Data Release (EDR) and the first two months of the main survey. This first set of data already yields an improvement in spectroscopic resolution with respect to the previous eBOSS measurement (Chabanier et al. 2019). I will also briefly provide forecasts for the end of the DESI survey. Coupling this measurement with theoretical predictions from hydrodynamical simulations (Walther et al. 2021) will yield strong constraints on the primordial matter power spectrum, neutrino masses, and dark matter properties.

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Classification de Session: Review and contribution talks