

Cosmology with the HETDEX survey

Tuesday, 13 October 2015 11:45 (45 minutes)

HETDEX (Hobby-Eberly Telescope Dark Energy eXperiment) is a galaxy survey targeting Lyman-alpha emitters (LAEs) at high redshifts ($1.9 < z < 3.5$). Starting from late 2015, the survey will observe about a million LAEs over ~ 400 sq. degrees, which corresponds to $\sim 10 \text{ Gpc}^3$ in volume. The main science goal of HETDEX is to measure the angular diameter distance and the Hubble expansion rate at high redshifts ($z \sim 2.5$ and $z \sim 3$) within a percent accuracy, so that we can measure the dark energy density better than $3\text{-}\sigma$. In this talk, I will introduce the HETDEX survey, summarize the survey design, observing strategy, as well as various cosmological information that the dataset can provide.

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Session Classification: Plenary Session