

Spectroscopic Determination of White Dwarf Candidates for the Dark Energy Survey

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ABSTRACT

The Dark Energy Survey (DES) is a current project in Fermilab's Cosmic Frontier which is a 5000-square-degree optical/near infrared imaging survey conducted over five years (2013-2018) for purposes of measuring the properties of dark energy. Synthetic photometry of pure-hydrogen-atmosphere ("DA") white dwarfs is currently the preferred technique for absolute zeropoint calibration of large sky surveys. For absolute calibration of the DES there needs to be a "Golden Sample" of 30-100 DA white dwarfs developed. The starting point is a photometric and spectroscopic observational campaign of ~ 6000 candidate white dwarfs in the DES field. Analyzing imaging and spectroscopic data will allow us to narrow down this sample. Over 50% of the candidates are DA white dwarfs.