

Abstract Submitted
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Synthetic Photometry of White Dwarf Candidates for Calibration of the Dark Energy Survey MEES FIX, ALLYN SMITH, Austin Peay State University, DOUGLAS TUCKER, WILLIAM WESTER, Fermi National Accelerator Lab, PIER-EMMANUEL TREMBLAY, Space Telescope Science Institute, SEVERIN CHARBONNIER, Ecole Polytechnique, DARK ENERGY SURVEY COLLABORATION — The Dark Energy Survey (DES) is a current project in Fermilab’s Cosmic Frontier program. It is a 5000-square-degree optical/near infrared imaging survey conducted over five years (2013-2018) for purposes of constraining the properties of dark energy. Photometric calibration of the DES is approached as a two part process. First is the Global Relative photometry effort to tie the survey in a seamless manner across the footprint. The second part of the effort is the Absolute photometry program which will set the zeropoints for each of the survey filters (*grizY*). 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 we are developing a “Golden Sample” of 30-100 DA white dwarfs, drawn from an initial sample of nearly 1000 candidate white dwarfs in the DES footprint. First, a spectroscopic observational campaign is needed to begin this process to verify spectral types and obtain synthetic magnitudes. The synthetic magnitudes will then be used to determine the filter zeropoints.

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