

SEARCHING FOR ECLIPSING DOUBLE WHITE DWARFS IN TESS 200S FULL FRAME IMAGES

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Close double white dwarfs undergoing orbital decay due to gravitational wave emission can be used to explore the white dwarf equation of state, tidal dissipation in white dwarfs, and are an important Type Ia supernovae progenitor channel. However, photometrically identifying these systems is challenging due to their narrow eclipses, meaning that even the best sampled ground-based lightcurves lack the sampling needed to identify many systems. In Cycle 5 of the *Transiting Exoplanet Survey Satellite* (TESS), which begins observations in September 2022, the full frame image (FFI) exposure time will be decreased from 600 seconds to 200 seconds. Lightcurves extracted from FFIs will have the temporal resolution needed to resolve the minute-long eclipses of double white dwarf systems, and will provide over ten thousand samples per sector, providing an unparalleled opportunity to study white dwarf variability with high time resolution. After extracting lightcurves for over one million white dwarf candidates, we will identify eclipsing white dwarf systems with a GPU-accelerated Box-Least-Squares period finding algorithm.