

ELLIPSOIDAL BINARIES WITH COMPACT COMPANIONS HIDDEN IN TESS

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Binaries with small orbital separations display photometric signatures that result from the tidal distortion of their component stars. These signatures can be used to identify candidate non-eclipsing binary systems. We used the BEER algorithm (Faigler et al. 2011, 2013, 2015a, 2015b) and TESS data to select 13,000 candidate binaries with orbital periods < 5 days, with a purity of ≈ 85 percent. This is the largest sample of binary systems in this period range.

In this poster we will discuss the implications of this sample for compact binary research. Among the sample are certain to be a number of main sequence + white dwarf binaries, in particular post-common envelope binaries with AFGK primaries, which are otherwise difficult to identify due to the bright primary star. We will present an overview of this sample, including preliminary attempts to identify white dwarf companions, and discuss possible future work in the area of white dwarf binaries using this sample.