

Abstract Submitted
for the APR11 Meeting of
The American Physical Society

Study of AM CVn Population Density using the Palomar Transient Factory DAVID LEVITAN, SHRI KULKARNI, TOM PRINCE, Caltech, SAMAYA NISSANKE, MICHELE VALLISNERI, Caltech/JPL, PALOMAR TRANSIENT FACTORY COLLABORATION — Our understanding of compact stellar binaries - especially detached white dwarf binaries (DWDs) and AM CVns - has increased substantially in recent years, in part due to significantly more detections. These systems are sources of gravitational waves and may also be SN Ia progenitors. Several will serve as verification sources for the Laser Interferometer Space Antenna (LISA). However, the population densities of these systems is poorly understood and simulations do not agree with observations. The last few years have also seen the beginning of several synoptic surveys. While not its primary use, synoptic data is a powerful tool for the detection of outbursting stars (such as AM CVns) as well as eclipsing binaries. Our work specifically uses PTF - the Palomar Transient Factory. We report on our recent observations of PTF-discovered AM CVn systems. We consider the implications of these new detections on our understanding of AM CVns and their population density, and the effects these have on LISA detection of ultra-compact binaries.

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Date submitted: 14 Jan 2011

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