

Contributed Talk

Splinter HotStars

THE POPULATION OF ULTRACOMPACT HOT SUBDWARF BINARIES

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Ultracompact hot subdwarf (sdO/B) binaries are short period binaries with orbital periods so short that the subdwarf will fill its Roche Lobe before the turning into a white dwarf. The study of these systems are important for our understanding of topics such as supernova Ia progenitors or binary evolution. Some of them might be detectable as Galactic gravitational wave sources with eLISA. However, the number of known systems is still limited with one confirmed system a few years ago. In this talk I will report on the discovery of three new systems with orbital periods of 44.5 min, 76.3 min and 87.5 min and discuss implications for stellar evolution.

The Zwicky Transient Facility (ZTF) is a next-generation optical synoptic survey with a 47 sqd. survey camera that builds on the experience and infrastructure of the Palomar Transient Factory and starts science operations in winter 2017. I am lead investigator of an approved high-cadence survey in the Galactic Plane ( $|b| < 7$  deg) covering the full inner Plane visible from the northern hemisphere (Galactic longitude  $10 < l < 230$ ) as part of ZTF. I will give an overview of the survey as well as discuss the expected numbers of ultracompact hot subdwarf binaries from this survey