

OUTBURSTS IN AM CVNS: PECULIARITIES AND THEIR IMPORTANCE IN THE SURVEY ERA

Liliana Rivera Sandoval¹

¹*University of Alberta, Canada*

AM CVns are double white dwarf systems in ultra short orbits of less than 70 min. They are particularly interesting because they are sources of low-frequency gravitational waves and are laboratories for studying mass accretion under extreme conditions. A fraction of the AM CVns shows outbursts, but the mechanisms behind these accretion related events are not fully understood. In this talk I will discuss what we know on accretion in AM CVns, focusing on the recent discoveries of outbursts in AM CVns with orbital periods longer than 45 min, a period range where the existence and properties of outbursts challenge the commonly invoked disk instability model. I will show the peculiar properties of these outbursts and how they compare to other accreting white dwarfs. I will discuss the long-year outbursts and peculiar color evolution of long period AM CVn systems. These are the longest outbursts observed so far in any accreting white dwarf and which have unambiguously demonstrated the existence of enhanced mass transfer mechanisms in AM CVns. I will also address the importance of adding these processes to the disk instability model in order to quantify their influence on AM CVn evolution and the impact these might have on the detection rate of upcoming surveys and gravitational wave observatories such as LISA