



The Beginnings and Ends of Double White Dwarfs

Contribution ID: 44

Type: **Talk**

ELM WDs in Double Degenerates: Formation and the significance for LISA

Monday, 1 July 2019 15:00 (20 minutes)

Extremely low-mass white dwarfs (ELM WDs) are helium WDs with a mass less than $\sim 0.30 M_{\odot}$. Most ELM WDs are found in double degenerates (DDs) in the ELM Survey led by Brown and Kilic. These systems are supposed to be significant gravitational-wave (GW) sources in the mHz frequency. In this talk, I first systematically investigated the formation of ELM WDs in DDs by a combination of detailed binary evolution calculation and binary population synthesis, and then compared our results with the observations. Finally, I will explore the GW radiation of such systems and make a prediction for future space-based interferometric GW detectors. See the paper for more details.

Primary author: LI, Zhenwei (Yunnan Observatories, Chinese Academy of Science)

Co-authors: Prof. XUEFEI, Chen (Yunnan Observatories, Chinese Academy of Science); Dr HAI-LIANG, Chen (Yunnan Observatories, Chinese Academy of Science); Prof. ZHANWEN, Han (Yunnan Observatories, Chinese Academy of Science)

Presenter: LI, Zhenwei (Yunnan Observatories, Chinese Academy of Science)

Session Classification: Observed WD Populations 1