

GlobULeS-IV. UVIT/AstroSat detection of extremely low mass white dwarf companions to blue straggler stars in NGC 362

Monday, April 24, 2023 5:05 PM (15 minutes)

Our study reports the discovery of ELM WDs as companions to BSS in the Galactic globular cluster NGC 362. We used data from AstroSat's UVIT, UVOT, Gaia EDR3, and the 2.2 m ESO/MPI telescope to create SEDs for 26 FUV bright member BSSs. Binary-SED fits revealed ELM WDs as binary companions in 12 of the 26 BSSs studied, suggesting that 12 BSSs are post-mass-transfer systems formed through the Case A/B mass transfer pathway. This is the first finding of ELM WDs as companions to BSS in globular clusters, and our results provide new insights into the dynamics of the NGC 362 cluster.

Author: Mr DATTATREY, Arvind (ARIES Nainital, Uttarakhand, India)

Presenter: Mr DATTATREY, Arvind (ARIES Nainital, Uttarakhand, India)

Session Classification: Stellar astrophysics and interstellar medium