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## Peeling back the layers: a stripped companion star revealed

Studying the chemical composition of accretion discs around compact objects, such as neutron stars in lowmass X-ray binaries (LMXBs), provides vital information about their formation and evolutionary history. This touches on a range of important topics, including key uncertainties in binary evolution such as mass transfer efficiency and common-envelope phases, that in turn impact the occurrence rates of various types of energetic transients, such as supernovae, gamma-ray bursts, and gravitational wave mergers. Finally, it can improve our understanding of the demographics and connections among different classes of binaries containing (accreting) compact objects.

In this talk, I will present an interesting case study to demonstrate the impact that can be made by exploiting UV and optical spectroscopy to study the composition of the transferred material in accretion discs. The LMXB UW CrB hosts a relatively small companion star, but its abundances reveal that this should be the CNO-core of a more massive, stripped companion star. Combined with its short orbital period, this suggests the system potentially underwent a common-envelope phase in its evolution. I will present UV and optical spectroscopy of UW CrB revealing the characteristics of the companion, discuss the possible formation paths, and put the system in context of the sample of accreting compact objects.

## Contribution

Oral talk

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