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Probing the jet response to neutron star X-ray bursts through the millimetre wavelength window

Astrophysical systems housing compact objects produce high-energy transient events that can be leveraged to study the processes of accretion and jet ejection. In particular, thermonuclear fusion on the surface of accreting neutron stars produces bursts of X-ray radiation that not only strongly impact the accretion structures in these systems, but as a recent novel experiment has shown, can also invoke a response in the outflowing jet. In this talk, I will discuss first results of the next iteration of this jet burst experiment. By extending our work into the millimetre bands, we can begin to take true advantage of this new methodology, place accurate constraints on jet speeds, characterize how the jet burst properties correlate with system properties, and ultimately understand the dominant mechanisms powering jets.

Contribution

Oral talk

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