

NuSTAR and Super-Eddington Accretion onto Neutron Stars

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The Nuclear Spectroscopic Telescope Array (NuSTAR) is the first focusing X-ray telescope at hard energies in space. Since its launch in 2012, NuSTAR has opened up a sensitive new view on many energetic astrophysical phenomena, such as supernova explosions, black hole spin measurements and cosmic supermassive black hole accretion history. One of NuSTAR's main discoveries is that some bright X-ray sources in other galaxies, known as ultraluminous X-ray sources (ULXs), long believed to be powered by black holes, were in fact powered by neutron stars. Some of these neutron stars were found to be radiating factors of 1,000 greater than the theoretical Eddington limit would allow, confounding theory. I will talk about the NuSTAR telescope, the discovery of neutron-star-powered ULXs, and a recent measurement of the magnetic field strength of one of these sources that has provided clues about how they radiate so powerfully.

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Collaboration name

NuSTAR

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