

## **General relativistic radiation hydrodynamic simulations of levitating atmospheres**

Some accreting neutron stars may produce near-Eddington luminosity. In general relativity, the atmosphere of a sufficiently luminous neutron star is disconnected from and levitates above its surface. The atmosphere is centered at a radius where the gravitational and radiation forces balance each other. We aim to simulate optically thin and thick levitating atmospheres of a near Eddington luminosity neutron star using the KORAL code in order to obtain stationary solutions.

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**Session Classification:** Student presentations