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NICER constraints on neutron star mass and radius¹ WYNN C.G. HO, Haverford College

Measurements of the mass and radius of neutron stars provide crucial insights into properties of matter at supranuclear densities, including the nuclear equation of state. Such measurements are a key mission objective of NICER, which is a precision timing X-ray instrument that was mounted on the International Space Station in June 2017. The NICER science team recently announced the first results on this objective using almost two megaseconds of data on the neutron star PSR J0030+0451. In this talk, I provide a brief overview of NICER and summarize the recent results on mass and radius, as well as report on ongoing efforts to measure the mass and radius of other neutron stars.

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