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### **Neutron Stars and the PREX Experiment<sup>1</sup>**

JORGE PIEKAREWICZ, Florida State University

A neutron star is a gold mine for the study of the phase diagram of cold baryonic matter. Perhaps the most remarkable fact about spherically-symmetric neutron stars in hydrostatic equilibrium – the so-called Schwarzschild stars – is that the only physics that they are sensitive to is the equation of state of neutron-rich matter. As such, neutron stars provide a myriad of observables that may be used to constrain the nuclear equation of state under extreme conditions of density. Conversely, I will argue how laboratory experiments, such as the Parity Radius Experiment (PREx) at the Jefferson Laboratory, may be used to develop strong correlations between the neutron radius of  $^{208}\text{Pb}$  and a host of neutron-star observables.

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