

HAW05-2005-020003

Abstract for an Invited Paper
for the HAW05 Meeting of
the American Physical Society

The Parity Radius Experiment at the Jefferson Laboratory

PAUL SOUDER, Syracuse University

The radius of the distribution of neutrons in lead can be determined by measuring the parity-violating electroweak asymmetry in the scattering of polarized electrons. This data can, in turn, be used to obtain information about the symmetry energy of nuclear matter, with a minimum of theoretical input, and then applied to descriptions of neutron stars. However, the experiment is challenging, requiring the measurement of a tiny asymmetry to a few percent of itself. Details about the theoretical and experimental issues will be presented.