

PREX-II: A Precise Measurement of the Neutral Weak Form Factor of ^{208}Pb

The parity-violating electroweak asymmetry in the elastic scattering of longitudinally polarized electrons from nuclei provides a clean measurement of the RMS radius of neutrons within the nucleus. A precise measurement of this radius can provide meaningful constraints to the density dependence of the symmetry energy in neutron rich nuclear matter, a parameter of the nuclear equation of state. In the summer of 2019, the PREX-II collaboration successfully measured this asymmetry using an electron beam from the CEBAF accelerator at Jefferson Lab incident on an isotropic lead-208 target. The analysis and results of the experiment will be presented, along with a brief discussion of the experimental techniques and challenges required to achieve this precise measurement.