

Measurement of G_E^n via $\vec{d}(\vec{e}, e'n)p$ at Jefferson Lab

N. Savvinov
Jefferson Laboratory

We determined the electric form factor of the neutron G_E^n via the reaction $\vec{d}(\vec{e}, e'n)p$ using a longitudinally polarized electron beam and a frozen, polarized $^{15}\text{ND}_3$ target at Jefferson Lab. The knocked out neutrons were detected in a segmented plastic scintillator in coincidence with the quasi-elastically scattered electrons which were tracked in Hall C's high Momentum Spectrometer. To extract G_E^n , we compared the experimental beam-target asymmetry with theoretical calculations based on different G_E^n models. We report the preliminary results of the Fall 2001 run at $Q^2 = 0.5$ and $1.0(\text{GeV}/c)^2$.