

Abstract Submitted
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Asymmetry Measurement of the Electric Form Factor of the Neutron¹ RICHARD OBRECHT, Univ of Connecticut - Storrs — The space-like electric form factor of the neutron has been extracted at $Q^2 = 1.16 \text{ GeV}^2$ via a beam-target helicity asymmetry measurement using the semi-exclusive reaction $^3\text{He}(\vec{e}, e'n)pp$. The Jefferson Lab Hall A experiment E02-013 ran in 2006 utilizing the 6 GeV CEBAF for its high-duty, longitudinally polarized electron beam. The double-arm coincidence experiment detected the quasielastically scattered electrons in a large angular and momentum acceptance spectrometer referred to as BigBite. The recoiling nucleons were detected in a large neutron detector, built out of planes of scintillator arrays interlaced with iron and lead plates to increase the probability of inducing a hadronic shower. The polarized ^3He target used the novel technique of hybrid spin-exchange optical pumping, resulting in a 10 atm target that could sustain polarizations greater than 50% at a beam current of $8 \mu\text{A}$. Presented will be the current analysis and a preliminary result for G_E^n at $Q^2=1.16 \text{ GeV}^2$.

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