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Analysis of the Neutron Electric Form Factor at Q^2 = 1.4 GeV^{2}using the reaction $^3\vec{H}e(\vec{e},e'n)pp$ RICHARD OBRECHT, University of Connecticut, SUPER BIGBITE COLLABORATION[1] — The Jefferson Lab Hall A experiment E02-013 extracted the neutron electric form factor G_E^n by measuring the beam-target asymmetry in quasi-elastically scattering of longitudinally polarized electrons from a polarized ^3He target via the semi-exclusive reaction$^3\vec{H}e(\vec{e},e'n)pp$. The experiment measured the electric form factor at a spacelike four-momentum transfer squared Q^2 =1.4, 1.7, 2.7, and 3.4 GeV^2, but only the latter three points were published by S. Riordan et al. (Phys. Rev. Lett. 105, 262302). The goal of this talk is to present the analysis chain necessary to extract the form factor from a neutron asymmetry that arises by periodically changing the sign of the beam helicity. The analysis includes selecting quasi-elastic events in a high noise environment, and correcting for various factors that dilute the signal such as false proton asymmetries and final state interactions within the target.

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