

Abstract Submitted
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Measurement of Two Photon Exchange in the ep Elastic Scattering Process using Recoil Polarization¹ WEI LUO², Lanzhou University, THE JEFFERSON LAB HALL C GEP-III COLLABORATION — The explanation of the discrepancy between electric form factor measured with recoil polarization and Rosenbluth separation data has been focused on contribution of two photon exchange process which was ignored in the previous radioactive corrections. Experiment E04-109 running at Jefferson Lab Hall C searched for out-of-plane polarization component due to two gamma exchange in the ep elastic scattering process using recoil polarization method. This effect requires small systematical uncertainty to be seen. Two detectors played essential role in this measurement, BigCal and FPP. BigCal is the electromagnetic calorimeter which detects electrons to make coincidence with HMS which is the standard Jefferson Lab Hall C spectrometer to measure protons. The BigCal is used to reject inelastic contribution to get clear elastic scattering events, and FPP is the detector to measure the polarization of protons in HMS focal plane. The preliminary results of BigCal performance and the helicity independence asymmetries measured at 3 kinematics points at $Q^2=2.5\text{Gev}^2$ will be reported.

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