

Abstract Submitted
for the APR08 Meeting of
The American Physical Society

New proton form factor ratio measurements in Jefferson Lab Hall C¹ ANDREW PUCKETT, MIT, JEFFERSON LAB HALL C GEP-III COLLABORATION — Experiments E04-108 and E04-019 in Hall C at Jefferson Lab measure the ratio of the proton's electric (G_E) and magnetic (G_M) form factors using the recoil polarization technique. E04-108 will extend the Q^2 reach of this technique to approximately 8.5 GeV², while E04-019 will measure the form factor ratio with high precision at a fixed Q^2 of 2.5 GeV² and three different values of ϵ in the range $0.1 \leq \epsilon \leq 0.8$. Measuring the ϵ dependence of the form factor ratio from polarization transfer at fixed Q^2 will establish or significantly constrain the size of two-photon effects in elastic electron-proton scattering. Such effects have been proposed to explain the different values of G_E/G_M obtained from polarization transfer and cross section (Rosenbluth separation) measurements at $Q^2 > 1$ GeV². E04-019 was completed in January 2008, and E04-108 will be completed in April-June of 2008. Form factor ratios extracted from a preliminary analysis of the data taken so far will be reported and discussed.

¹Supported in part by DOE, NSF

Andrew Puckett
MIT

Date submitted: 15 Jan 2008

Electronic form version 1.4