

Abstract Submitted
for the APR12 Meeting of
The American Physical Society

Overview and Status of the OLYMPUS Experiment REBECCA RUSSELL, MIT, OLYMPUS COLLABORATION — Analysis via Rosenbluth separation of elastic electron-proton scattering has long yielded the ratio of the electric and magnetic form factors (G_E/G_M) to be constant as a function of Q^2 . More recent studies using polarized beams, extracting G_E/G_M through the polarization transfer technique, show it to decrease linearly with Q^2 . It is suspected that two-photon exchange processes explain the observed discrepancy, though theoretical calculations vary dramatically. OLYMPUS measures the two-photon contribution by studying the ratio of the cross section for electron-proton scattering to positron-proton scattering using DORIS at DESY. With multi-GEV beam energies and > 100 mA current on an internal hydrogen gas target, OLYMPUS will be able to precisely measure two-photon exchange for $0.5 \leq Q^2 \leq 2.5$ GeV². An update of the status of the experiment, and its 2012 data run, will be presented.

Douglas Hasell
MIT

Date submitted: 06 Jan 2012

Electronic form version 1.4