

Abstract Submitted  
for the DNP08 Meeting of  
The American Physical Society

**Determining  $G_E^s$  and  $G_M^s$  from parity violating asymmetry measurements at  $Q^2 = 0.23, 0.63 \text{ GeV}^2$**  MATHEW MUETHER, University of Illinois,  $G^0$  COLLABORATION — The  $G^0$  experiment recently utilized the high luminosity polarized electron beam at Jefferson Lab to measure parity-violating asymmetries in backward scattered electrons from cryogenic hydrogen and deuterium targets at momentum transfers,  $Q^2$ , of 0.23 and 0.63  $\text{GeV}^2$ . These asymmetries, arising from the interference of the electromagnetic and neutral weak interactions, are only a few tens of parts-per-million. A dedicated toroidal superconducting magnetic spectrometer, and fast counting electronics provided the required particle identification and measurement precision. These data together with previous results, including the  $G^0$  forward angle measurement [1], allow the determination of the strange electric and magnetic nucleon form factors,  $G_E^s$  and  $G_M^s$  at the respective  $Q^2$  values. The current status of our analysis to determine these values will be presented. [1]D.S. Armstrong et al. ( $G^0$ ), *Phys. Rev. Lett.* **95**, 092001 (2005).

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Date submitted: 01 Jul 2008

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