

Abstract Submitted  
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**G0 Backward Angle Measurement: Strange Quark Contributions to Parity-Violating Asymmetries in Electron Scattering from LH2 and LD2 at  $Q^2 \sim 0.63$  and  $0.23 \text{ GeV}^2$**  MATHEW MUETHER, University of Illinois - UIUC, G0 COLLABORATION — The G0 backward angle experiment at Jefferson Lab completed running in March 2007. The experiment measured parity-violating asymmetries from backward scattered electrons in elastic electron-proton and quasi-elastic electron-deuteron interactions at momentum transfers of  $Q^2 = 0.63$  and  $0.23 \text{ GeV}^2$ . These asymmetries, arising from the interference of the electromagnetic and neutral weak interactions, are expected to be only a few tens of parts-per-million. The final asymmetries together with previous results, e.g. the G0 forward angle measurement [1], will allow for the determination of the strange quark contribution to the proton electric ( $G_E^s$ ) and magnetic ( $G_M^s$ ) form factors as well as the axial form factor ( $G_A^e$ ) at the measured momentum transfers. The status of the experiment and the ongoing analysis of the data from both hydrogen and deuterium targets at beam energies of 687 and 362 MeV will be discussed.

[1] D.S. Armstrong et al. (G0), *Phys. Rev. Lett.* **95**, 092001 (2005).

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