

Abstract Submitted  
for the HAW05 Meeting of  
The American Physical Society

**Strangeness form factors of the proton: Results from the G0 forward angle measurement** LARS HANNELIUS<sup>1</sup>, Caltech, G0 COLLABORATION — The G0 experiment at Jefferson Lab has recently concluded its first phase: a measurement of the parity-violating (PV) asymmetry in polarized electron-proton scattering over a four-momentum transfer range  $0.12 < Q^2 < 1.0 \text{ GeV}^2$  at a beam energy of 3 GeV. This PV asymmetry, which arises through the interference of the electromagnetic and neutral weak interactions, can be related to the strangeness vector current matrix element  $\langle N | \bar{s} \gamma_\mu s | N \rangle$ , and thereby provide information about the non-perturbative  $\bar{s}s$  sea in the nucleon. In particular, the G0 measurement yields a linear combination of the proton's strangeness electric and magnetic form factors  $G_{E,M}^s$  in each of 18  $Q^2$  bins. In this talk I will give a brief overview of PV electron-proton scattering, the G0 experimental apparatus, the data analysis, and then present results from the G0 forward angle measurement.

<sup>1</sup>on behalf of the G0 collaboration

Lars Hannelius  
Caltech

Date submitted: 25 May 2005

Electronic form version 1.4