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Strangeness form factors of the proton: Results from the G0 forward angle measurement LARS HANNELIUS¹, 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.

¹on behalf of the G0 collaboration

Prefer Oral Session
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