

Abstract Submitted
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Qweak Detector Update DAVID MACK, TJNAF — The Qweak experiment at Jefferson Laboratory will make the first measurement of the weak charge of the proton to constrain new electron-quark interactions at the TeV-scale. The experimental observable of interest is the small, parity-violating asymmetry in the elastic scattering of electrons from protons. Cerenkov light emitted by the scattered electrons in quartz bars will be converted to current by phototubes. The desired signal resides in the small (< 1 ppm) change in average anode current when the longitudinal beam polarization is reversed. Results from a prototype test will be presented as well as our latest design for the full-size detector. The anticipated performance in terms of linearity and total noise (relative to counting statistics) will also be discussed.

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