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Measuring the Weak Charge of the Proton With Parity Violation in Electron Scattering

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The observation of parity non-conservation in the scattering of electrons from fixed nuclear targets provides a window to probe new physics at the TeV scale. In these measurements, parity non-conservation is manifest as a cross-section asymmetry for longitudinally polarized electrons scattering from unpolarized targets. The reaction is predominantly mediated by the neutral weak current, but possible new interactions beyond the Standard Model may also contribute. The measurement from the Qweak collaboration in electron-proton elastic scattering will be reviewed, along with prospects for future, related measurements.