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Measurement of the weak charge of the proton with Q_{weak}

Parity violating electron scattering can provide precise tests of the Standard Model. The Q_{weak} experiment has made use of the Continuous Electron Beam Accelerator Facility at Jefferson Lab to scatter polarized 1.1 GeV electron off a liquid hydrogen target in order to determine the weak charge of the proton. Our measurement of the parity violating asymmetry is the most precise among these type of measurements to date, providing limits on possible beyond-Standard-Model physics that complement constraints from high-energy colliders. This talk will summarize the analysis and leading systematic uncertainties and discuss the resulting constraints on possible new physics.

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