

Abstract Submitted
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Development and Testing of Q_{Weak}^p Luminosity Monitors KEVIN FINELLI, Virginia Tech — Building on advances in recent parity experiments at Jefferson Lab, the opportunity exists to make the first precision measurement of the weak charge of the proton, Q_{Weak}^p . The Q_{Weak}^p experiment will measure the asymmetry in the scattering of longitudinally polarized electrons on a liquid hydrogen target. The luminosity monitors, placed at forward scattering angles, will be used for monitoring sources of false asymmetry and target density fluctuations. The luminosity monitors will consist of an array of Cerenkov quartz coupled to photomultiplier tubes by air light guides. It is therefore essential to quantify the linearity of the response of the luminosity monitor PMTs. This is being tested with a small asymmetry and a complete electronics chain designed to mimic experimental conditions. Additionally, the air light guides are being constructed and tested for transmission efficiency using cosmic ray events incident on the quartz Cerenkov radiators.

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