

Abstract Submitted
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Storing Data from Qweak—A Precision Measurement of the Proton’s Weak Charge TIMOTHY POTE, Hendrix College, QWEAK COLLABORATION — The Qweak experiment will perform a precision measurement of the proton’s parity violating weak charge at low Q^2 . The experiment will do so by measuring the asymmetry in parity-violating electron scattering. The proton’s weak charge is directly related to the value of the weak mixing angle—a fundamental quantity in the Standard Model. The Standard Model makes a firm prediction for the value of the weak mixing angle and thus Qweak may provide insight into shortcomings in the SM. The Qweak experiment will run at Thomas Jefferson National Accelerator Facility in Newport News, VA. A database was designed to hold data directly related to the measurement of the proton’s weak charge such as detector and beam monitor yield, asymmetry, and error as well as control structures such as the voltage across photomultiplier tubes and the temperature of the liquid hydrogen target. In order to test the database for speed and stability, it was filled with fake data that mimicked the data that Qweak is expected to collect. I will give a brief overview of the Qweak experiment and database design, and present data collected during these tests.

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