

Abstract Submitted
for the DNP10 Meeting of
The American Physical Society

Optimization and Accessibility of the Qweak Database ERIK URBAN, DAMON SPAYDE, Hendrix College, QWEAK COLLABORATION — The Qweak experiment is a multi-institutional collaborative effort at Thomas Jefferson National Accelerator Facility designed to accurately determine the weak nuclear charge of a proton through measurements of the parity violating asymmetries of electron-proton elastic scattering that result from pulses of electrons with opposite helicities. Through the study of these scattering asymmetries, the Qweak experiment hopes to constrain extensions of the Standard Model or find indications of new physics. Since precision is critical to the success of the Qweak experiment, the collaboration will be taking data for thousands of hours. The Qweak database is responsible for storing the non-binary, processed data of this experiment in a meaningful and organized manner for use at a later date. The goal of this undertaking to not only create a database which can input and output data quickly, but create one which can easily be accessed by those who have minimal knowledge of the database language. Through tests on the system, the speed of retrieval and insert times has been optimized and, in addition, the implementation of summary tables and additional programs should make the majority of commonly sought results readily available to database novices.

Damon Spayde
Hendrix College

Date submitted: 08 Jul 2010

Electronic form version 1.4