

Abstract Submitted  
for the APR12 Meeting of  
The American Physical Society

**Suppression of false asymmetries for the QWeak experiment** EM-MANOUIL KARGIANTOULAKIS, University of Virginia, QWEAK COLLABORATION — The Qweak experiment at Jefferson Lab will determine the neutral weak charge of the proton to a precision of 4% by measuring the parity-violating asymmetry of polarized electrons, providing a stringent test of the Standard Model and probing new physics at the 2 TeV scale. For this goal to be achieved, the asymmetry will be measured at an accuracy of 4 parts-per-billion. At this level of precision, it is necessary to minimize the contribution of false asymmetries and keep systematic errors below the part-per-billion level. In this talk, we will discuss techniques for configuring the polarized electron source to minimize changes in the beam intensity, trajectory, and energy under reversal of the beam helicity, as well as beam diagnostics and complementary analysis strategies employed to make remaining corrections to the measured asymmetry.

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Date submitted: 10 Jan 2012

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