

Abstract Submitted
for the APR17 Meeting of
The American Physical Society

Precision Magnetometry and Systematic Effects in the Nab Experiment JASON FRY, Institute of Nuclear and Particle Physics, University of Virginia, NAB COLLABORATION — The Nab experiment will determine the electron-neutrino correlation parameter a with a precision of $\delta a/a = 10^{-3}$ and the Fierz interference term b to $\delta b = 3 \times 10^{-3}$ in unpolarized neutron β decay. A long asymmetric spectrometer is optimized to achieve fast proton momentum longitudinalization and the required narrow proton momentum response function. A reliable relation of the measured proton TOF to a requires detailed knowledge of the effective proton pathlength, which imposes requirements on the precision of the magnetic fields in the Nab spectrometer. The Nab magnetometry goals, associated systematics, and some initial results will be discussed.

Jason Fry
Institute of Nuclear and Particle Physics, University of Virginia

Date submitted: 30 Sep 2016

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