Abstract Submitted
for the DNP19 Meeting of
The American Physical Society

Nab Detector Timing Studies[1] GLENN RANDALL, Arizona State University, NAB COLLABORATION — Precise measurements of neutron beta decay correlations provide a potential window to new physics related to the weak sector. The Nab experiment will measure the electron-neutrino correlation coefficient and Fierz interference term to as of yet unattained precision. Observables for Nab are electron energy and proton time of flight, which can be converted to proton momentum. Nab's error budget calls for proton time of flight uncertainty less than or equal to 0.3 ns. One major systematic in proton time of flight is detector charge collection time. To characterize this, Nab will have to do a high precision in situ measurement of the Nab Si detector charge collection time as a function of particle ID and energy. This talk will focus on our planned procedure as well as detector background and other measurements done in preparation.

[1]This material is based upon work supported by the U.S. Department of Energy, Office of Science, Office of Workforce Development for Teachers and Scientists, Office of Science Graduate Student Research (SCGSR) program. The SCGSR program is administered by the Oak Ridge Institute for Science and Education for the DOE under contract number DESC0014664. The Nab experiment is supported by grants from the US NSF and DoE, as well as Canada's NSERC.

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Date submitted: 01 Jul 2019 Electronic form version 1.4