Abstract Submitted
for the APR21 Meeting of
The American Physical Society

Status of the Electron-antineutrino Cross-section Measurement in the NOvA Near Detector[1] DEREK DOYLE, Colorado State University, SCIDAC-4: HEP DATA ANALYTICS ON HPC COLLABORATION, NOVA COLLABORATION — NOvA is a long-baseline neutrino oscillation experiment built to measure the rate of electron-neutrino appearance to constrain oscillation parameters: an analysis that relies on accurate estimates of the electron-antineutrino cross section. The status of a measurement of the electron-antineutrino charged-current inclusive cross section in the NOvA near detector is presented. We expect to select over 10,000 signal events in the fiducial volume of the detector over the data-taking period. The analysis employs a data-driven template-fit approach to signal estimation. Future work includes the measurement of electron neutrino to antineutrino cross-section ratios and development of an analysis framework designed for high-performance computing platforms.

[1]The work presented is funded by the Department of Energy

Derek Doyle
Colorado State University

Date submitted: 11 Jan 2021 Electronic form version 1.4