Contribution ID: **53** Type: **Poster**

Neutrino Tridents in the NOvA Near Detector

Monday, 10 August 2020 12:10 (15 minutes)

NOvA is a long-baseline accelerator-based neutrino oscillation experiment that uses the NuMI beam from Fermilab to measure electron-neutrino appearance and muon-neutrino disappearance using a Near Detector, located at Fermilab, and a Far Detector, located in Ash River, Minnesota. The high flux of muon neutrinos at the Near Detector allows for measurement of rare processes such as neutrino trident scattering, a Standard Model process in which a charged-lepton pair is produced via neutrino-nucleus scattering. The event rate of this process may give insight into a Beyond the Standard Model interaction involving a Z' boson as a mediator. This poster will discuss estimates of the event rates, which are on the order of tens to hundreds, detail a method to reconstruct these events, and evaluate the viability of measuring an event rate in the NOvA Near Detector.

Summary

Primary authors: SMITH, Erica; MICHAELS, Kelli (Indiana University)

Presenters: SMITH, Erica; MICHAELS, Kelli (Indiana University); SMITH, Erica (Indiana University)

Session Classification: Poster session