Contribution ID: **65** Type: **not specified**

Measurement of the muon neutrino charged-current interactions with low hadronic activity in the NOvA near detector

The NOvA near detector (ND), located at Fermilab (Batavia, IL), records a high rate of neutrino interactions with energies ranging from 1-5 GeV. This rate and well understood systematic uncertainties allow to study neutrino-nucleus interactions with good precision. The muon neutrino charged-current interaction channel with low hadronic activity presents an opportunity to measure observables with enhanced nuclear effects, particularly, short-range nucleon correlations in neutrino-nucleus interactions. These effects are one of the major systematic uncertainties in the measurement of the oscillation parameters.
In this poster, we present a cross-section measurement of this channel as a function of the outgoing muon energy and angle in the NOvA ND. In addition, we present the status of our efforts to extract the nuclear effect component, particularly, the meson exchange current (MEC), using this sample.

Primary author: Dr ALIAGA SOPLIN, Leonidas (Fermilab)

Presenter: Dr ALIAGA SOPLIN, Leonidas (Fermilab)