

## Event Selection for the NOvA Numu Disappearance Analysis

The NOvA experiment is a long baseline neutrino oscillation experiment utilizing the NuMI beam at Fermilab.

The experiment will measure the oscillations of the primarily muon neutrino beam using two functionally-identical,

liquid scintillator tracking calorimeter detectors placed 810 km apart and 14 milliradians off-axis to the NuMI beam.

The muon neutrino disappearance analysis has developed a method for selecting charged current (CC) interactions

based on the identification of muons. A technique for separating the selected CC interactions into quasielastic and non-quasielastic sub-samples has also been developed. Separating into sub-samples allows for better energy estimation in each individual sample resulting in increased sensitivity to the oscillation parameters. These methods and their performance will be presented in this poster.

### WG3: Accelerator Physics (Yes/No)

No

### WG2: Neutrino Scattering Physics (Yes/No)

No

### WG4: Muon Physics (Yes/No)

No

### WG1: Neutrino Oscillation Physics (Yes/No)

Yes

### Type of presentation

Poster

**Author:** Mr RADDATZ, Nicholas (University of Minnesota)