Contribution ID: **21** Type: **not specified**

Electron Neutrino Identification in the NOvA Detectors

The NOvA long-baseline neutrino experiment has been designed to study electron neutrino appearance in a muon neutrino beam using a totally active, segmented, liquid scintillator detector located off the Fermilab NuMI beam axis. NOvA will observe electron neutrino appearance with a baseline of 810 km subject to significant matter effects. It will thus have excellent sensitivity to the neutrino mass hierarchy and will begin the search for CP violation in the lepton sector by running both neutrinos and anti-neutrinos. We have developed several techniques in order to isolate the signal electron neutrino charged-current events from the dominant background neutral-current neutrino events. We also show preliminary rejection efficiencies on the first far detector cosmic ray data.

Primary author: XIN, Tian (Iowa State University)

Co-author: Dr DAVIES, Gavin (Iowa State University)

Presenters: Dr DAVIES, Gavin (Iowa State University); XIN, Tian (Iowa State University)