

Charged-Current Cross Section Measurements in the NOvA Experiment

Friday 29 August 2014 14:00 (25 minutes)

The NOvA experiment is a long-baseline neutrino oscillation experiment with a 300 ton near detector and 14 kton far detector, located 810 km away, both positioned 14 mrad off-axis of the Fermilab NuMI neutrino beam. A 220 ton prototype Near Detector On the Surface (NDOS) was built on the surface at Fermilab 106 mrad off-axis of the NuMI beam. NDOS has been taking data since 2010. Two separate cross section measurements have been completed using NDOS data. In one analysis, muon-neutrino charged-current quasi-elastic (CCQE) events were identified and used to calculate the cross-section for CCQE interactions as a function of energy between 0.5 and 2.0 GeV. The second study measured the muon-neutrino inclusive charged-current cross section at 1.97 GeV. This talk will give an overview of the two analyses.

WG3: Accelerator Physics (Yes/No)

No

WG2: Neutrino Scattering Physics (Yes/No)

Yes

WG4: Muon Physics (Yes/No)

No

WG1: Neutrino Oscillation Physics (Yes/No)

No

Type of presentation

Oral presentation

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Session Classification: WG2: Neutrino Scattering Physics