

Measurement of electron neutrino CCQE-like cross-section in MINERvA

Friday 29 August 2014 11:00 (25 minutes)

The electron-neutrino charged-current quasi-elastic (CCQE) cross-section on nuclei is an important input parameter to appearance-type neutrino oscillation experiments. Current experiments typically work from the muon neutrino cross-section and apply corrections from theoretical arguments to obtain a prediction for the electron neutrino cross-section, but to date there has been no experimental verification of the estimates for this channel at an energy scale appropriate to such experiments. We present a preliminary result from the MINERvA experiment on the first measurement of an exclusive reaction in few-GeV electron neutrino interactions, namely, the cross-section for a CCQE-like process. The result is given both as differential cross-sections vs. the electron energy, electron angle, and Q^2 , as well as a total cross-section vs. neutrino energy.

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

Author: WOLCOTT, Jeremy (University of Rochester)

Presenter: WOLCOTT, Jeremy (University of Rochester)

Session Classification: WG2: Neutrino Scattering Physics