

## Implications of recent MINERvA results for neutrino energy reconstruction

*Thursday 28 August 2014 14:00 (30 minutes)*

Among the most important tasks of neutrino oscillation experiments is correctly estimating the parent neutrino energy from the by-products of their interactions. Large uncertainties in our current understanding of such processes can significantly hamper this effort. We explore two recent measurements made using the MINERvA detector in the few-GeV NuMI muon neutrino beam at Fermilab: the differential cross-section vs.  $Q^2$  for charged-current quasi-elastic scattering, and the differential cross-sections vs. pion angle and pion kinetic energy for resonant single charged pion production. We furthermore discuss their implications for energy reconstruction in oscillation measurements.

### **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)**

Yes

### **Type of presentation**

Oral presentation

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**Session Classification:** WG2: Neutrino Scattering Physics