

Abstract Submitted  
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**Studying Neutrino Oscillations Using Quasi-Elastic Events in MINOS.**<sup>1</sup> SUJEEWA KUMARATUNGA, University of Minnesota, MINOS COLLABORATION — MINOS (Main Injector Neutrino Oscillation Search), is a long baseline neutrino experiment studying neutrino oscillations using two detectors, one at Fermi National Accelerator Laboratory, IL (Near Detector) and the other at Soudan, MN (Far Detector). It will study  $\nu_\mu$  oscillations and make a measurement of the oscillation parameters,  $\Delta m_{23}^2$  and  $\sin^2 2\theta_{23}$ , using a  $\nu_\mu$  beam made at Fermilab. Charge current neutrino interactions in the MINOS detectors are of three types: quasi-elastic scattering (QEL), resonance scattering (RES) and deep inelastic scattering (DIS). Of these, quasi-elastic scattering leaves the cleanest signal with just one  $\mu$  and one proton in the final state, thus rendering the reconstruction of the neutrino energy more accurate. This talk will outline attempts to separate QEL events from the others in the two detectors in order to perform a determination of  $\Delta m_{23}^2$  and  $\sin^2 2\theta_{23}$  using those events.

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