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1 Electrons for Neutrinos

[1] ADI ASHKENAZI, Massachusetts Institute of Technology MIT, ELECTRONS FOR NEUTRINOS COLLABORATION — The ability of current and next generation accelerator based neutrino oscillation measurements to reach their desired sensitivity requires a high-level of understanding of the neutrino-nucleus interactions. These include precise estimation of the relevant cross sections and the reconstruction of the incident neutrino energy from the measured final state particles. Incomplete understanding of these interactions can skew the reconstructed neutrino spectrum and thereby bias the extraction of fundamental oscillation parameters and searches for new physics. In this talk I will present new results of wide phase-space electron scattering data, collected using the CLAS spectrometer at the Thomas Jefferson National Accelerator Facility (JLab), the reconstruction of the incoming lepton energy from the measured final state is being tested. Disagreements with current event generators, used in the analysis of neutrino oscillation measurements, are observed which indicate underestimation of nuclear effects. The impact of these findings on bias in oscillation analyses will also be discussed.

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