

Electrons for Neutrinos: Analysis of 1p1pi Channel

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Neutrino oscillation is being studied in laboratories around the world. This oscillation is measured as a function of propagation distance divided by energy. However, the incident neutrino energy (E) must be reconstructed from particles detected following neutrino-nucleus interactions. We exploited the similarities between electron-nucleus and neutrino-nucleus interactions to test this energy reconstruction. We used electron-nucleus scattering data with known beam energies and the large-acceptance CLAS6 detector at the Thomas Jefferson National Accelerator Facility. We used 1.1, 2.2, and 4.4 GeV electrons incident on helium, carbon, and iron targets. Previous analyses of this data looked at the quasi-elastic dominated 1p0pi channel. This presentation will discuss the resonance dominated 1p1pi channel. We will present π^+ , π^- , and π^0 results and compare them to GENIE calculations. This data will guide improvements in event generators which are important in understanding neutrino-nucleus interactions currently being studied at facilities such as MicroBooNE, MINERvA, DUNE, and T2K.