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Measurement of muon neutrino CC inclusive double differential cross section in hadronic variables using NOvA

This talk presents a measurement of the double-differential cross section for inclusive, charged-current νμ-nucleus scattering in the predominantly hydrocarbon medium of the NOvA near detector. The cross section is expressed in terms of 3-momentum transfer and available hadronic energy, variables well-suited to elicit the 2-particle-2-hole (2p2h) contribution in the 1-3 GeV region of incident neutrino energy. The cross section is compared to GENIE-based Monte Carlo predictions based on five different 2p2h implementations. The models are further tested by restricting to a phase space region where 2p2h is observed to be prevalent.

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