

Reassessing the models of neutrino-nucleus interactions (ONLINE)

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Recent results showing that lattice calculations provide a remarkably good description of the measured vector form factors of the nucleon indicate that this approach has reached a high level of reliability. I will report the results of calculations of the cross section of the process $^{12}\text{C}(\nu\mu, \mu^- p)$ averaged over the neutrino fluxes of the MiniBooNE and T2K experiments. The analysis has been carried out using the spectral function formalism and the axial form factor obtained from lattice QCD [1]. Based on the results of this study, I will propose a reassessment of the roles of mechanisms other than single-nucleon knock out in the determination of the neutrino nucleus cross section.

[1] S. Park et al., Phys. Rev. D 105, 054505 (2022)

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