

APR21-2021-001628

Abstract for an Invited Paper
for the APR21 Meeting of
the American Physical Society

Neutrino-Nucleus Scattering in Neutrino Oscillation Experiments

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Accelerator-based neutrino experiments are taking the center stage of the neutrino oscillation program. These experiments use beam neutrinos with energies between 500 MeV and 5 GeV and detect them by their interactions with nuclei. Understanding neutrino-nucleus interaction cross sections and their uncertainties is crucial to the success of the neutrino oscillation program. In this talk, I will discuss how neutrino-nucleus cross sections impact the experimental measurements. I will review the current status of the cross section calculations and estimations of their uncertainties. I will also highlight both theoretical and experimental efforts to improve our understanding of this problem.