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## Cross section adjustment for 2p2h interactions in NOvA

NOvA is a long-baseline neutrino experiment at Fermilab that studies neutrino oscillations via electron neutrino appearance and muon neutrino disappearance. The oscillation measurements compare the Far Detector data to an oscillated prediction which combines Near Detector (ND) data and the current understanding of neutrino interactions through simulation using GENIE. By tuning the cross section model to better represent neutrino scattering data from NOvA's ND and other experiments, we can extract oscillation parameters with more accurate cross section uncertainties. The tuning is performed in the ND, before oscillations occur. We present the method to determine the 2p2h interaction cross section in NOvA, based on adjustments to the Valencia meson exchange current model, and the construction of the associated uncertainties; these are used in NOvA's 2020 oscillation analysis, and represent an improvement with respect to the 2018 and 2019 analyses as the number of adjusted parameters was significantly reduced.

### Mini-abstract

NOvA adjusts the Valencia MEC model with a new parametrization to improve MC-data agreement.

### Experiment/Collaboration

NOvA

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