

Cross-Section Modeling on the NOvA Experiment

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Neutrino interaction cross sections are a significant source of uncertainty for many experiments dependent on the determination of neutrino properties from the inference of neutrino flavor or energy. To mitigate the effect of these large uncertainties on results from NOvA Experiment, a long-baseline experiment currently operating at Fermilab, the collaboration undergoes a critical evaluation of available cross-section models and implements the most appropriate models in simulation. In the process of model evaluation, a tune of GENIE simulation customized to the NOvA experiment is produced, along with a robust treatment of the appropriate systematics. This talk will review the relevant details of 3-flavor oscillations analyses on NOvA, the MEC tune that NOvA has developed for these analyses, and the status of model evaluation for future NOvA measurements.

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