

## Modeling quasielastic and pion production on the nucleus

*Tuesday 22 August 2023 14:30 (15 minutes)*

I will discuss some nuclear effects affecting neutrino-nucleus cross sections at energies of interest for neutrino-oscillation experiments. Pauli blocking, binding energies, effects beyond the impulse approximation, and final state interactions are investigated, with focus on the differences between a quantum mechanical approach and the models and methodology found within Monte Carlo neutrino event generators. The results I will present are mainly based on our recent works: PRL 123, 052501 (2019); PRC 100, 045501 (2019); PRC 105, 025502 (2022); PRC 105, 054603 (2022); Phys. Rev. D 106, 113005 (2022); arxiv:2203.09996; arxiv:2304.01916; and some ongoing projects.

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