

# Neutrino cross section measurement in miniboone experiment

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## Abstract content

### Summary

The mini-Booster neutrino experiment (MiniBooNE) at Fermi National Accelerator Laboratory (Fermilab) is designed to search for  $\nu_{\mu}$  to  $\nu_e$  appearance neutrino oscillations. Muon neutrino charged current quasielastic (CCQE) interactions make up roughly 40% of our data sample, and are used to constrain the background and cross sections for the oscillation analysis.

Using high-statistics MiniBooNE CCQE data, the muon-neutrino CCQE differential cross section on carbon is measured. Our measurement can be used to study nuclear effects in neutrino interactions, which is critical input for future long baseline neutrino oscillation experiments.

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