

A data-driven method of neutral current background prediction at NOvA

NOvA is a long-baseline neutrino oscillation experiment that will use the NuMI beam originating at Fermilab. NOvA enables the study of two oscillation channels: ν_μ disappearance and ν_e appearance. It consists of two functionally identical detectors, the Near Detector (ND) at FNAL and the Far Detector (FD) near International Falls in Northern Minnesota. The ND will be used to study the neutrino beam spectrum and composition before oscillation, and measure background rate to the ν_e appearance search. In this poster, I will describe a data-driven method of estimating the neutral current (NC) component of the ND spectrum. This technique involves the removal of the reconstructed muons from ν_μ CC interactions to produce a well understood sample of hadronic events that resemble NC interactions. I will outline the implementation of this method, its performance and usage in background analysis.

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