

# A data-driven method of background prediction at NOvA

*Friday, 16 August 2013 15:30 (20 minutes)*

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:  $\nu_\mu$  disappearance and  $\nu_e$  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  $\nu_e$  appearance search. In this talk, I will describe a data-driven way of estimating the neutral current (NC) component of the ND spectrum. Using the  $\nu_\mu$  CC interactions where the reconstructed muon is removed from the event, we produce a well understood sample of hadronic events that resemble NC interactions.

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