

The nuBDX-DRIFT Detector for CEvNS Physics at Fermilab

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I will discuss the prospects for using a nuclear-recoil TPC detector with directional sensitivity to study CEvNS at Fermilab. Even relatively small detectors would be able to make a significant detection of CEvNS on a year time scale in the NuMI beam with minimal background. A larger detector in the Near Detector Hall of the DUNE beam would be able to measure the weak mixing angle and neutron nuclear densities using CEvNS physics. Backgrounds are expected to small and multiple target nuclei, not previously studied, are possible with this technology.

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