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Preliminary Monte-Carlo Studies on Detecting Multi-Nucleon Events in the T2K Pi0 Detector JACLYN SCHWEHR, Colorado State Univ, T2K COLLABORATION — The interaction of neutrinos with heavy nuclei is a field of study that has grown rapidly as more experiments are built with heavier targets. Neutrinos interacting with these targets are thought to interact with not just single nucleons, but also with correlated groups of nucleons. Models describing these interactions have been included in neutrino interaction simulation software, giving experimentalists the opportunity to compare these new theories with data. The T2K experiment has included the Nieves et.al. model for multi-nucleon interactions in NEUT (the neutrino interaction simulation program at Super-K) to generate events in the T2K near detector, ND280. This talk will look at initial studies of the feasibility of using the Pi0 Detector in the ND280 detector complex to identify multi-nucleon events using these newly generated simulations.

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