

Abstract Submitted  
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**Event Reconstruction in T2K's ND280** ERIC CONRAD, FAHMIDA KHANAM, NORM BUCHANAN, Colorado State University, T2K COLLABORATION — The T2K (Tokai to Kamiokande) experiment is a long baseline neutrino experiment located in Japan that is measuring the oscillation of a beam of muon neutrinos into electron neutrinos at the Super-Kamiokande (SuperK) detector 395km away. This experiment requires precise knowledge of the beam composition and that the backgrounds to the SuperK signal events be well understood. The PiZero Detector (P0D) is a plastic scintillator-based detector that is a part of the off-axis Near Detector (ND280) which sits 280 meters from the neutrino beam origin. The P0D will be used to measure  $\pi^0$  production on a water target because this is the dominant background of the muon neutrino to electron neutrino oscillation signal at SuperK. I will present a description of the event reconstruction for data coming from the P0D including a discussion of the importance of particle identification on measuring the  $\pi^0$  production rate.

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