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Measurement of muon neutrino charged current interactions in T2K's near detector

The T2K collaboration presents the selection of muon neutrino charged current events using near detector (ND280) data at J-PARC (Tokai). Events are inclusively selected for the presence of a muon candidate, and then divided into three categories according to the presence of additional pion and electron candidates. The categories resemble the event topologies of the three dominant cross sections at T2K's beam energy: charged current quasi-elastic, single-pion resonant production, and deep inelastic scattering. These selections are later used by the T2K flux and cross-section fit to extract the muon neutrino beam flux and to re-weight and reduce the uncertainties in the neutrino-nucleus cross section at these energies. The selection of the data and its comparison with the Monte Carlo and cross-section predictions will be presented.

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Track Classification: Neutrino Physics