Contribution ID: **245** Type: **Poster cross sections**

Event selection for the measurement of the charged current muon antineutrino single pion production cross section in the T2K near detector

The goal of presented analysis is the measurement of the muon antineutrino single π^- production cross section in the T2K near detector. One of the crucial steps is the optimization of signal selection in order to obtain good selection's purity, efficiency and efficiency distribution in the phase space. Since the antineutrino beam is largely contaminated by neutrinos, the main background in the CC1π^- topology ($\bar{\nu}_\mu + p \rightarrow \mu^+ + \pi^- + p$) consists of events originating from neutrino CC interactions containing 1 μ^- and 1 π^+ in the final state. The proposed selection reduces the background to 48% level of the selected events while maintaining the signal acceptance over the full range of measured lepton kinematics. The effect of systematic errors and control samples will also be presented.

Authorship annotation

for the T2K collaboration

Session and Location

Wednesday Session, Poster Wall #100 (Auditorium Gallery Left)

Poster included in proceedings:

yes

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Track Classification: Poster (not participating in poster prize competition)