Contribution ID: **357**   Type: **Poster cross sections**

ν_μCC1$\pi^\pm$ event selection in SBND

SBND is the near detector of the Short Baseline Neutrino program at Fermilab. It is a 4m x 4m x 5m liquid Argon time projection chamber providing high-statistics measurements of neutrino interactions by recording 3D images with fine granularity. Cross sections of neutrino-nucleus interactions with pions in the final state were measured by MiniBooNE and MINERvA, showing large discrepancies between data and model predictions. We aim to address this puzzle, and improve the phenomenology of shallow inelastic neutrino-nucleus interactions, by studying ν_μCC1$\pi^\pm$ production in SBND. A sample of about 10^6 CC1$\pi^\pm$ neutrino events is expected from the full 3-year run period. In this poster we present a preliminary evaluation for the efficiency and purity of a CC1$\pi^\pm$ event selection using automated reconstruction on simulated data from SBND. We focus on evaluating the performance of the current SBND automated reconstruction chain.

Session and Location

Wednesday Session, Poster Wall #110 (Auditorium Gallery Left)

Poster included in proceedings:

yes

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