Contribution ID: **183** Type: **Poster session**

T2K neutrino beam flux prediction with improved MC tuning using latest NA61/SHINE hadron production data

The neutrino flux is an essential input for oscillation analyses and neutrino cross section measurements in the T2K experiment. To predict the flux, we simulate the production of pions from the primary proton beam and their focusing inside magnetic horns, until they subsequently decay in flight to produce neutrinos. For hadronic interactions, dedicated hadron production data from NA61/SHINE experiment are used to tune the MC prediction and assign systematic uncertainties. We report on recent developments and future prospects for further reduction of systematic uncertainties.

Primary author: BERNS, Lukas (Tokyo Institute of Technology)

Co-author: T2K COLLABORATION

Presenter: BERNS, Lukas (Tokyo Institute of Technology)

Session Classification: Neutrino Physics Session 2

Track Classification: Neutrino Physics