

Pion Production Measurement in NA61/SHINE Experiment for High Precision Neutrino Oscillation Experiments

Tomasz Jan Palczewski, for the NA61 Collaboration:

In this talk I will present preliminary results from a fixed target experiment NA61/SHINE at the CERN SPS. One of physics goals of the NA61 experiment is a measurement of hadron production cross sections from proton-Carbon interactions at 31GeV/c for the T2K experiment at J-PARC. A better knowledge of differential cross sections for pion and kaon production is of importance for improving the accuracy of neutrino flux simulations. The performance of the NA61 detector will be discussed. It will be shown that our detector has a large acceptance, good particle identification, and full coverage of the T2K phase space region. The event reconstruction efficiency, acceptance corrections, and identification methods used will be discussed. Finally, preliminary NA61 differential cross section $d^2\sigma / dp d\theta$ for pions production from proton interactions on a thin carbon target will be presented.

Primary author: Mr PALCZEWSKI, Tomasz (Soltan Institute for Nuclear Studies, Warsaw, Poland.)

Presenter: Mr PALCZEWSKI, Tomasz (Soltan Institute for Nuclear Studies, Warsaw, Poland.)

Track Classification: Poster session