

Hadron production measurements at NA61/SHINE for precise determination of accelerator neutrino fluxes

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The total systematic uncertainty of the neutrino flux in accelerator-based neutrino experiments is dominated by the Monte Carlo modeling of hadronic interactions. Direct hadron production measurements for T2K and Fermilab neutrino experiments, MINER ν A, NO ν A and DUNE, are being performed at the NA61/SHINE spectrometer at CERN's Super Proton Synchrotron. Crucial for improving neutrino flux predictions, hadron yields, inelastic and production cross sections are obtained at NA61/SHINE where interactions of various hadron beams with thin and thick (replica) targets are reproduced. Recently obtained results will be reported. An extension of NA61/SHINE's programme of hadron production measurements for neutrino experiments is planned beyond 2020.

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