

NA61/SHINE measurements for neutrino experiments

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Accelerator-based neutrino experiments estimate neutrino fluxes using detailed simulations of their beamlines. Models of hadronic interactions of the primary beams with their target and secondary interactions are the dominant source of systematic uncertainty in modern flux predictions. The NA61/SHINE experiment at CERN is providing precise measurements that will constrain these uncertainties. Measurements of hadron yields from a thin carbon target and a T2K replica target have allowed for a significant reduction of T2K (anti)neutrino flux uncertainties to about 5%. In addition to many thin-target datasets, the experiment has also collected data on a NuMI replica target and will collect data on a DUNE prototype target in Summer 2024. Recent results from NA61/SHINE's neutrino program will be presented, as well as plans for future measurements.

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