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DsTau (NA65) experiment: Study of tau neutrino production in proton-nucleus interactions at CERN-SPS

NA65 experiment at CERN SPS will measure an inclusive differential cross-section of D_s production in protonnucleus interactions with a consecutive decay to τ . The study will allow a better evaluation of ν_{τ} flux in neutrino experiments, as this process is a main source of ν_{τ} in the beams. The experimental method is based on a use of high resolution emulsion detectors for effective registration of short lived particles and use of powerful automatic tools for the readout of information from the emulsion.

Main data sample will be collected in 2021-22. Data analysis is a challenge from point of view of high track density ($\sim 10^5/cm^2$) and amount of data to be processed. A status of the pilot run data analysis and prospects of mass data processing, which requires resources of big data storage and distributed parallelization of computationally intensive tasks, is presented.

Mini-abstract

Status of NA65 experiment aiming to study ν_{τ} production in p-A interactions is presented.

Experiment/Collaboration

DsTau (NA65)

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