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NA65(DsTau): study of tau neutrino production in p-A interactions

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The DsTau experiment at CERN-SPS has been proposed to measure an inclusive differential cross-section of a Ds production with a consecutive decay to tau lepton in p-A interactions. A precise measurement of the tau neutrino cross section would enable a search for new physics effects such as testing the Lepton Universality (LU) of Standard Model in neutrino interactions. The detector is based on nuclear emulsion providing a sub-micron spatial resolution for the detection of short length and small "kink" decays. Therefore, it is very suitable to search for peculiar decay topologies ("double kink") of Ds⟶τ⟶X. In 2022, the second physics run of the experiment was performed successfully. In this talk we discuss the physics potential of the experiment and present the analysis result of the pilot run data and the near-future plans.

Submitted on behalf of a Collaboration?

Yes

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