

Tau Neutrino Appearance in the Flux of Atmospheric Neutrinos

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The flux of atmospheric neutrinos comprises of muon and electron neutrinos. Below 10 GeV, we do not expect to see a significant number of tau neutrinos in the atmosphere, unless they appear from the oscillation of atmospheric muon neutrinos. The Super-Kamiokande experiment (Super-K) is a water Cherenkov detector in Japan. Super-K is capable of directly detecting these oscillated tau neutrinos - which would be an unambiguous confirmation of the phenomena of neutrino oscillations. The last study at Super-K, in 2018, excluded the hypothesis of no tau neutrino appearance at 4.6 sigma. This seminar presents the latest analysis on the subject.

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