

Abstract Submitted
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Tau neutrino as a probe of nonstandard interactions via charged Higgs and W' contribution¹ AHMED RASHED, MURUGESWARAN DURAISAMY, ALAKABHA DATTA, University of Mississippi — We consider charged Higgs and W' gauge boson contributions to the quasielastic, Δ -resonance, and deep inelastic processes in the tau-neutrino nucleon scattering $\nu_\tau + N \rightarrow \tau^- + X$ and $\bar{\nu}_\tau + N \rightarrow \tau^+ + X$. These effects modify the standard model cross section for these processes and thus impact the extraction of the neutrino mixing angles θ_{23} and θ_{13} . We include form factor effects in our calculations and find the deviation of the actual mixing angle from the measured one, assuming the standard model cross section, can be significant and can depend on the energy of the neutrino.

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