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Neutrino Non-Standard Interactions: Complementarities Between LHC and Oscillation Experiments

Physics beyond the standard model may induce significant deviations in the couplings involving neutrinos generally referred to as Non-Standard neutrino Interactions (NSI). We present a complementarity study between LHC and oscillation experiments to probe NSIs. We perform the analyses in a simplified model and an illustrative ultraviolet completion. The present and high-luminosity LHC sensitivities to NSIs are derived with jets plus missing energy searches. We show that besides constraining the allowed NSI parameter space, the LHC data can break relevant degeneracies from oscillation experiments. The results will be presented.

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