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Constraining Lorentz Violation with IceCube High Energy Neutrino Data

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The Lorentz violation effects on the flavor transitions of high energy astrophysical neutrinos are studied. We show that stringent constraints on the Lorentz violation parameters can be derived from recent IceCube flavor ratio measurement on astrophysical neutrinos with energies between 25 TeV and 2.8 PeV. We present our results with both analytical approximations and full numerical calculations.

Summary

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