

Abstract Submitted
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Searching for Lorentz Violation with Reactor Antineutrinos
JOSHUA SPITZ, MIT, DOUBLE CHOOZ COLLABORATION — Neutrino oscillations are a sensitive probe of Lorentz violation. The Double Chooz neutrino oscillation experiment's exploration of this phenomenon is presented. Sensitivity to Lorentz violation is provided through a search for a sidereal modulation of the observed signal. The extracted measurements represent the first limits on a number of Lorentz violating parameters; specifically, the parameters associated with transitions between electron and tau flavor. This analysis is the first test of Lorentz invariance using a reactor-based antineutrino source.

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