

Multiple Probes of Lorentz Violation with Reactor Antineutrinos

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As natural interferometers, neutrino oscillations provide a unique and sensitive tool to look for the violation of Lorentz invariance. The Double Chooz experiment has recently searched for a sidereal time dependence among the electron antineutrino candidates as a probe of Lorentz violation. This analysis represents the first such search using antineutrino oscillations at a reactor-based experiment. In a follow up analysis, the energy dependence of the events has also been studied for sensitivity to Lorentz violation. Both of these analyses will be presented.

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