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Bounds on Lorentz violation parameters in present and future neutrino experiments

A broadly applicable effective field theory for Lorentz violation is known as the Standard-Model Extension (SME). The corresponding coefficients governs the Lorentz-violating physics associated with different operators.

Consequently, any experimental indication of Lorentz violation can be represented by these coefficients. This study aims to investigate and catalog current bounds for the Lorentz Invariance Violation (LIV) parameters using data from experiments, collecting on bibliographic research, and data collection from academic materials and articles. We will compare and analyze the data from the repository with the sensitivity limits of future neutrino experiments for these parameters using GLoBES.

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