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Lorentz Violation, CPT violation, and Spectroscopy Experiments

This presentation outlines a model derived from the Standard-Model Extension for testing Lorentz symmetry in atomic spectroscopy experiments and examines potential signals for Lorentz violation accessible in these experiments. These signals include CPT violation, indicated by differences between the hydrogen and antihydrogen spectra, as well as sidereal and annual variations of observables. Additionally, the talk reviews the progress made in constraining the SME coefficients within the model and offers suggestions for future enhancements in this research area.

Author: VARGAS, Arnaldo (University of Puerto Rico)

Presenter: VARGAS, Arnaldo (University of Puerto Rico)