

Abstract Submitted
for the DAMOP18 Meeting of
The American Physical Society

Tests of Lorentz and CPT Symmetry with Precision Experiments

YUNHUA DING, V. ALAN KOSTELECKÝ, Indiana University Bloomington — Lorentz and CPT symmetry is fundamental in physics. However, tiny violation of this symmetry is possible in an underlying unified theory such as strings. This talk explores the theoretical and experimental prospects for Lorentz violation, focusing on electromagnetic interactions. The theory of Lorentz violation in quantum electrodynamics is presented, and experimental observables are established for precision experiments involving confined particles and antiparticles. New constraints on coefficients for Lorentz and CPT violation from existing data will be presented and prospective sensitivities in future experiments will be outlined.

Yunhua Ding
Indiana University Bloomington

Date submitted: 09 Jan 2018

Electronic form version 1.4