

1. Record Nr.	UNINA9910789294503321
Titolo	Proceedings of the Sixth Meeting on CPT and Lorentz Symmetry, Bloomington, USA, 17-21 June 2013 / / editor, V. Alan Kostelecky, Indiana University, USA
Pubbl/distr/stampa	New Jersey : , : World Scientific, , [2014] 2014
ISBN	981-4566-43-8
Descrizione fisica	1 online resource (xiii, 278 pages) : illustrations
Collana	Gale eBooks
Disciplina	530.11 539.7 539.725
Soggetti	CP violation (Nuclear physics) Lorentz groups
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Preface; CONTENTS; Bounds on LLI Violation and Long-Range Spin-Spin Interactions Using Hg, Cs, and the Earth; 1. Introduction; 2. The second generation Hg-Cs LLI experiment; 3. Using our results to limit spin-spin interactions; 4. Future prospects; Acknowledgments; References; Antihydrogen, CPT, and Naturalness; 1. Introduction; 2. Naturalness and CPT; 3. Antihydrogen experiments at the CERN AD; Acknowledgments; References; Testing Lorentz Symmetry with the Double Chooz Experiment; 1. Double Chooz; 2. Sidereal variation analysis; 3. SME coefficient limits; References 3. SME coefficicents for Lorentz violation in binary PSRs4. Future prospects; Acknowledgments; References; A New Approach to Search for Lorentz Invariance Violationin Decay; 1. Ways to observe LIV in decay; 2. Experimental method; 3. Outlook; Acknowledgments; References; Relevance and Prospects of Magic Telescope Gamma-Ray Observations for Lorentz Symmetry Tests; 1. The MAGIC telescopes; 2. Lorentz invariance tests; 3. Quantification of time delays; 4. Present reach using very high-energy gamma-rays; 4.1. Pulsed emission from the Crab nebula; 4.2. Gamma-ray bursts

4.3. Flaring active galactic nuclei5. Future prospects; References; Comments on Lorentz and CPT Violation; 1. Introduction; 2. Basics; 3. Nonminimal fermion sector; 4. Riemann-Finsler geometry; Acknowledgments; References; Testing Periodic Local Position Invariance Using Long-Term Comparison of the SYRTE Atomic Fountains and H-Masers; 1. Clock comparison; 2. Search for periodic variations and LPI coefficients; Acknowledgments; References; CPT Test with (Anti)Proton Magnetic Moments Based on Quantum Logic Cooling and Readout; 1. Classical approach; 2. Quantum logic approach; Acknowledgments
References
Tests of the Lorentz and CPT Symmetries at the Planck Energy Scale from X-Ray and Gamma-Ray Observations; 1. Search for new physics at the Planck energy scale; 2. Constraining $d = 6$ coefficients with -ray observations; 3. Conclusions and outlook; References; An Odd (Parity) Test of Lorentz Symmetry with Atomic Dysprosium; Acknowledgments; References; Lorentz and CPT Violation in the Neutrino Sector; 1. Introduction; 2. Lorentz-violating neutrinos; 2.1. Neutrino oscillations; 2.2. Neutrino time of flight; 2.3. Beta decay; 3. Future outlook; Acknowledgments; References
The Search for Neutrino-Antineutrino Mixing from Lorentz-Invariance Violation Using Neutrino Interactions in MINOS

Sommario/riassunto

This book contains the Proceedings of the Sixth Meeting on CPT and Lorentz Symmetry, held at Indiana University in Bloomington on June 17-21, 2013. The Meeting focused on tests of these fundamental symmetries and on related theoretical issues, including scenarios for possible violations. Topics covered at the meeting include searches for CPT and Lorentz violations involving: accelerator and collider experiments; atomic, nuclear, and particle decays; birefringence, dispersion, and anisotropy in cosmological sources; clock-comparison measurements; electromagnetic resonant cavities and lasers; te
