

PREFACE

This proceedings volume contains papers presented during the Fourth Meeting on CPT and Lorentz Symmetry, which took place between Wednesday August 8 and Saturday August 11, 2007 in the Physics Department at Indiana University, Bloomington. The primary focus of the event was experimental and theoretical investigations of these spacetime symmetries.

The papers in this volume were solicited from all the individuals who delivered presentations at the meeting. The schedule included invited talks, contributed talks, and posters. The papers are categorized accordingly and are ordered within each category following their timing during the event. My appreciation goes to all contributors for their efforts in preparing timely manuscripts.

The meeting featured descriptions of a wide variety of experimental studies of CPT and Lorentz symmetry, including ones involving astrophysical observations, clock-comparison measurements, cosmological birefringence, electromagnetic resonant cavities, gravitational tests, matter interferometry, muon behavior, neutrino oscillations, oscillations and decays of neutral mesons, particle-antiparticle comparisons, post-newtonian gravity, space-based missions, spectroscopy of hydrogen and antihydrogen, and spin-polarized matter. Theoretical treatments of CPT and Lorentz symmetry included physical effects at the level of the Standard Model, General Relativity, and beyond, possible origins and mechanisms, and associated classical and quantum issues in field theory, particle physics, gravity, and string theory.

I would like to thank the many people who helped to organize and run the meeting. Advice and assistance with various day-to-day matters were provided by Brett Altschul, Quentin Bailey, Robert Bluhm, Jorge Díaz, Jason Henline, Matt Mewes, and Jay Tasson, among numerous others. Several crucial organizational challenges were skillfully met by Jordan Tillett and Neil Russell, whose efforts were key to the smooth operation and success of the event.

Alan Kostelecký
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