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Symmetry in the Spin-Coupling Sector -- Do Evanescent Modes Violate Relativistic Causality?.

Sommario/riassunto

After a century of successes, physicists still feel the need to probe the limits of the validity of theories based on special relativity. Canonical approaches to quantum gravity, non-commutative geometry, string theory and unification scenarios predict tiny violations of Lorentz invariance at high energies. The present book, based on a recent seminar devoted to such frontier problems, contains reviews of the foundations of special relativity and the implications of Poincaré invariance as well as comprehensive accounts of experimental results and proposed tests. The book addresses, besides researchers in the field, everyone interested in the conceptual and empirical foundations of our knowledge about space, time and matter.