



Colloquium

The proper conceptual and theoretical perspective on dynamics and a modified theory of electrodynamics as a consistent covariant Hamiltonian formulation of the theory

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Abstract :

From the practical point of view, the talk is to illustrate the lack of a consistent Lorentz covariant formulation of electrodynamics, which really contradicts the idea of Lorentz symmetry as truly fundamental. The root of the problem is deep. It is some persistent, subtle confusion about the theoretical character of Newtonian time, that led to an inconsistent picture about 'relativistic' physics, especially in field theories. Then we give the proper conceptual and theoretical perspective on dynamics, and present a consistent covariant (Hamiltonian) formulation of the theory as a necessarily modified or enriched version of it. We may also discuss some important fundamental issues in quantum physics in relation.