

Phenomenology 2025 Symposium



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What is the Geometry of Effective Field Theories?

Monday 19 May 2025 15:00 (15 minutes)

One of the fundamental difficulties in the Lagrangian formulation of effective field theories (EFTs) is that one can redefine the fields in a theory without changing the physical predictions, e.g. scattering amplitudes. The freedom to perform field redefinitions to change the form of the Lagrangian can often obscure the physical content of an EFT. This is in fact a familiar situation in any physical theory, where one can pick different coordinate systems for the dynamical degrees of freedom. In the case of classical Hamiltonian mechanics, this corresponds to choosing different coordinates for the same symplectic geometry. What is the analogous geometric picture for EFTs? Is it possible to characterize and classify EFTs by the geometric properties of their associated manifolds? In this talk, we present recent progress towards answering these ambitious questions.

Mini Symposia (Invited Talks Only)

Plenary (Invited talks only)

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