

Physical and unphysical running of couplings

Wednesday, 11 September 2024 09:00 (40 minutes)

In particle physics the running couplings are used to solve the problem posed by large logarithms, and they faithfully reproduce the overall dependence of scattering amplitudes on the energy. I will show that in certain circumstances the standard definition of running couplings fails to satisfy these properties, and will give the physically relevant definition. This applies in particular to higher derivative gravity. The physical running differs from the one that is known in the literature and allows the theory to be asymptotically free without tachyons.

Primary author: PERCACCI, Roberto (SISSA)

Presenter: PERCACCI, Roberto (SISSA)