

Pseudo-Goldstone scalars in the minimal SO(10) Higgs model

Thursday 24 May 2018 15:20 (20 minutes)

The minimal renormalizable SO(10) Higgs model in which the unified symmetry is broken down by the adjoint representation is known to suffer from tachyonic instabilities along all potentially realistic symmetry-breaking chains. Few years ago, this issue has been identified as a mere relic of the tree level calculations and the radiative corrections to the masses of the pair of the “most dangerous” pseudo-Goldstone scalars in the model’s spectrum have been computed. Remarkably enough, it turns out that - in its minimal potentially realistic renormalizable realization - there is third pseudo-Goldstone scalar (a full SM singlet) suffering from the same disease that, until recently, happened to escape the community’s attention. In this talk we will provide a short account of the calculation of the one-loop correction to its mass and comment briefly on the prospects of an implementation of this scheme within a fully realistic grand unified scenario.

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Session Classification: Parallel Session on Unified Models