

# Scalars 2015

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## Radiatively Induced Fermi Scale in Grand Unified Theories

### Content :

We propose a Grand-Unified-Theory framework [arXiv:1511.01910], where the hierarchy between the unification and the Fermi scale emerges radiatively. As a concrete example, we study a Pati-Salam-type unification scenario, where the SM scalar sector is replaced by an  $SU(4)$ -symmetric one. In this scenario, the observed Higgs particle is an elementary pseudo-Goldstone boson.

We show that it is possible to construct a viable model where the unification scale is taken to be above the experimental bound, while the Fermi scale is generated radiatively. This scenario opens up interesting prospects for exploring a wide variety of open problems in particle physics, ranging from neutrinos to cosmic inflation.

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