

Scalars 2015

Contribution ID : 33

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.

Primary authors : Dr. ALANNE, Tommi (CP3-Origins, SDU) ; Prof. SANNINO, Francesco (CP3-origins, University of Southern Denmark) ; Dr. MERONI, aurora (SDU CP3-Origins) ; Dr. TUOMINEN, Kimmo (University of Helsinki)

Co-authors :

Presenter : Dr. ALANNE, Tommi (CP3-Origins, SDU)

Session classification : --not yet classified--

Track classification : --not yet classified--

Type : --not specified--