

Scalars 2017



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Generating hierarchies on the fermion masses in a 3HDM limit of the pSHUT model

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Content :

The fermion spectrum observed in nature exhibits a wide range of hierarchies that go from the sub-eV regime up to hundreds of GeV. In this talk I will introduce a multi-Higgs extension of the Standard Model whose origin is inspired in a recently proposed Grand Unified Theory denoted as Supersymmetric Higgs Unified Trinification (or SHUT model for short). The presence of an $SU(3)$ family symmetry at the high scale forbids any tree-level lepton masses and only one generation of quarks can get its mass by leading order Yukawa interactions. I will discuss how quantum effects and the choice of the scalar sector are crucial for the generation of a realistic fermion spectrum as well as discussing the prominent phenomenological potential of this model in predicting e.g., the CKM mixing in the quark sector.

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