PLANCK 2016
From the Planck Scale to the Electroweak Scale
23-27 May 2016
Valencia, Spain

ID de la contribución : **137** Tipo : **Contributed talk**

Lepton flavor violation in the singlet-triplet scotogenic model

miércoles, 25 de mayo de 2016 18:50 (20)

We investigate lepton flavor violation (LFV) in the the singlet-triplet scotogenic model in which neutrinos acquire non-zero masses at the 1-loop level. In contrast to the most popular variant of this setup, the singlet scotogenic model, this version includes a triplet fermion as well as a triplet scalar, leading to a scenario with a richer dark matter phenomenology. Taking into account neutrino oscillation data, we explore some aspects of the LFV phenomenology of the model. In particular, we study the relative weight of the dipole operators with respect to other contributions to the LFV amplitudes and determine the most constraining observables. We show that in large portions of the parameter space, the most promising experimental perspectives are found for LFV 3-body decays and for coherent $mu - e$ conversion in nuclei.

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Clasificación de la sesión : BSM 5

Clasificación de temáticas : SUSY/Higgs/BSM