26th International Conference on Supersymmetry and Unification of Fundamental Interactions (SUSY2018)



Contribution ID: 143 Type: Talk (closed)

Two scalar singlet Higgs Portal and the Anomaly-cancelation on a leptophobic Z'-mediator with axially coupled DM

Tuesday 24 July 2018 18:00 (20 minutes)

Di-lepton production at the LHC and Direct Detection (DD) limits put strong constraints on simplified DM models where the DM particle is a fermion, coupled to the SM through an extra U(1)' gauge boson, Z'. The first problem can be avoided by demanding vanishing Y'-charges for leptons (leptophobia). Then, the requirement of anomaly cancellation imposes strong and non-trivial constraints on the spectrum of the dark sector. On the other hand, DD limits can be avoided by requiring an axial coupling between the DM and the Z'. We clasify the (very few) possibilities fulfilling both requirements simultaneously, and explore their phenomenology.

Parallel Session

Dark Matter, Astroparticle Physics

Author: QUILIS, Javier (IFT, UAM-CSIC)

Presenter: QUILIS, Javier (IFT, UAM-CSIC)

Session Classification: Dark Matter, Astroparticle Physics