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More minimal MRSSM: R symmetry as lepton number, sneutrino as down type Higgs

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I will talk about a new R symmetric SUSY model where the R symmetry is identified with one of the lepton number, and as consequence the sneutrino plays the role of the down type Higgs.

This is possible as the sneutrino does not carry any lepton number, and therefore the sneutrino VEV is not constrained by the usual tight bounds from the neutrino mass.

On the other hand, all the other SUSY partners carry a lepton number, and this leads to a quite interesting and distinctive phenomenology at colliders.

Furthermore, our model has a more minimal particle content respect to the MRSSM (the Minimal R Symmetric Supersymmetric Standard Model): indeed we don't need to enlarge the Higgs sector respect to the MSSM introducing an extra pair of doublets.

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