

High scale twisted custodial symmetry in two Higgs doublet models

We study the high scale twisted custodial symmetry in two Higgs doublet models and its phenomenology. We show that this scenario can be valid up to Planck scale, and both discovered Higgs boson couplings and electroweak precision observable can be explained without decoupling of additional Higgs bosons. We find that the characteristic mass spectrum is predicted and this scenario can be studied at future HL-LHC and ILC experiments. This talk is based on M. Aiko, S. Kanemura, K. Mawatari, Phys. Lett. B797 (2019) 134854 (arXiv: 1906.09101) and on the ongoing project with S. Kanemura.

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