

Little hierarchy problem for new physics just beyond the LHC

Wednesday, May 22, 2013 5:00 PM (0:15)

Abstract content

I discuss two possible extensions to the standard model in which an inert singlet scalar state that only interacts with the Higgs boson is added together with some fermions. In one model the fermions provide for a see-saw mechanism for the neutrino masses, in the other model for grand unification of the gauge couplings. Masses and interaction strengths are fixed by the requirement of controlling the finite one-loop corrections to the Higgs boson mass thus addressing the little hierarchy problem. The inert scalar could provide a viable dark matter candidate.

Summary

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Session Classification : Parallel Session on BSM Physics