

KMI-theory/EHQ joint seminar

title :

SUSY scales in the gauge-Higgs unification

speaker :

Dr. Hisaki Hatanaka (Osaka Univ.)

date/time :

Nov. 22 (Tue) / 4:30 PM

abstract :

In the $SO(5) \times U(1)$ gauge-Higgs unification in the Randall-Sundrum (RS) warped space the Higgs boson naturally becomes stable. The model is consistent with the current collider signatures only for a large warp factor $z_L > 10^{15}$ of the RS space. In order for stable Higgs bosons to explain the dark matter of the present Universe the Higgs boson must have a mass $m_h = 70 \sim 75$ GeV, which can be obtained in the non-SUSY model with $z_L \sim 10^5$. We show that this discrepancy is resolved in a supersymmetric gauge-Higgs unification with a stop mass $m_{\tilde{t}} = 480 \sim 505$ GeV and gaugino masses > 1 TeV. (arXiv:1111.3756[hep-ph])

place :

ES034 (3F Lecture Room)