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Linking the supersymmetric standard model to the cosmological constant

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In string theory picture, Planck scale M_{Pl} , the supersymmetry-breaking scale m_s , electroweak scale m_{EW} and vacuum energy density (cosmological constant) Λ are to be dynamically determined from string scale M_S . Here we consider a model that links the supersymmetric electroweak phenomenology to string theory motivated flux compactification approach. The model breaks supersymmetry through a combination of the racetrack Kahler uplift mechanism and anti-D3-brane in the KKLT. The introduction of the Higgs field allows a small Λ and a big m_s simultaneously.

Summary

Primary authors: QIU, Yucheng (The Hong Kong University of Science and Technology); Prof. TYE, Henry (The Hong Kong University of Science and Technology)

Presenter: QIU, Yucheng (The Hong Kong University of Science and Technology)

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