Particle Physics Challenges



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Higgs Inflation and the NMSSM

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In the context of canonical superconformal supergravity, Higgs inflation can be elegantly incorporated with a non-minimal Higgs coupling to supergravity. Such a conformal candidate model can be the Next-to-Minimal Supersymmetric Standard Model. Superconformal breaking induces extra terms in the effective Superpotential at low scales. We study the phenomenology of this model at the electroweak scale and show how the Higgs spectrum differs from the model with minimal coupling and how the branching fractions of the Standard Model-like Higgs boson can be affected by the non-minimal coupling to supergravity.

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