Higgs, Flavor and Beyond



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Heterotic de Sitter Vacua, Modular Symmetry, and Stringy Instantons

Thursday 29 September 2022 16:50 (20 minutes)

I will discuss vacua of Heterotic toroidal orbifolds using effective theories consisting of an overall Kahler modulus, the dilaton, and non-perturbative corrections to both the superpotential and Kahler potential that respect target space modular invariance. I will prove a de Sitter no-go theorem for a class of vacua and thereby substantiate a previous conjecture. I will illustrate a loophole in the no-go theorem and determine criteria that allow for metastable de Sitter vacua. Finally, I will identify inherently stringy non-perturbative effects in the dilaton sector that could exploit this loophole and realize de Sitter vacua.

Summary

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 Session Classification:
 Parallel Session Strings

Track Classification: Strings & Mathematical Physics