Contribution ID: **262** Type: **not specified**

Modular stabilisation in the multiple-modulus framework

Thursday 6 June 2024 18:20 (20 minutes)

Modular symmetry provides us with a satisfactory and appealing framework for addressing the flavour problem. The only flavons present in such a framework are one or more moduli fields τ. It seems that the fixed points $\tau = i$ and ω play a special role in both the phenomenological model building and the 10d supersymmetric orbifold examples. In this talk, I will investigate a modulus stabilisation mechanism in the multiple-modulus framework which is capable of providing de Sitter (dS) global minima precisely at the fixed points $\tau = i$ and ω, by taking into consideration non-perturbative effects on the superpotential and the Kähler potential. Due to the existence of additional Kähler moduli, more possible vacua can occur, and the dS vacua could be in general the deepest. I will classify different choices of the vacua, and discuss their phenomenological implications for lepton masses and flavour mixing.

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Session Classification: Parallel Session PII.6