XVIII AVOGADRO MEETING on Strings, Supergravity and Gauge Theories



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Energy and stability of non-supersymmetric strings

Tuesday, 20 December 2022 17:50 (10 minutes)

In this talk, I will begin with a review of the known vacua for ten-dimensional non-supersymmetric strings, with and without (R-R or gauge) fluxes, focusing on their stability properties.

Following a recent attempt to define a notion of energy in string compactifications, I will present a Nester-Witten energy for vacua without fluxes. Among these, the Dudas-Mourad vacua, known to be perturbatively stable, turn out to be good candidates for this formalism since they realize a minimum of the energy. However, the presence of codimension-one singularities plays a key role in proving stability, and dynamic mechanisms could hide new channels of instability.

I will also comment on the problems that arise when introducing form fluxes.

Primary author: RAUCCI, Salvatore (Istituto Nazionale di Fisica Nucleare)

Presenter: RAUCCI, Salvatore (Istituto Nazionale di Fisica Nucleare)

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