Ciências ULisboa

GEOMETRY & PHYSICS
SEMINAR

6 novembro | 16:00 | sala 6.2.33

Higgsing on SU(N) Symmetric Matter and its F-theory Realization

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CMAFcIO

Abstract:
F-theory is a powerful framework for studying string compactifications that encodes many of the details of the physical theory in the geometry of a singular elliptically fibered Calabi–Yau manifold. In the first part of this talk, I will provide an introduction to F-theory, discussing the motivation for this construction and the mathematical techniques used to analyze F-theory vacua. I will then describe recent work on the explicit realization within F-theory of the Higgsing of an SU(N) gauge theory on symmetric matter, primarily exploiting heterotic/F-theory duality. The new models analyzed in this work provide explicit counterexamples to several long-standing assumptions about the physical interpretation of the Mordell–Weil group of the elliptic fibration.

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