String Pheno '23

Contribution ID: **91**   Type: **not specified**

Free Fermionic Webs of Heterotic T-folds

Thursday 6 July 2023 16:45 (15 minutes)

Non-geometric string vacua are well know to play a key role in moduli stabilisation. In the context of heterotic orbifolds, models can be studied in terms of fermionic or bosonic formulations. At the heart of the connection between these two constructions is bosonisation that connects a single boson with 2 real fermions in the worldsheet CFT. The freedom to pair up fermions in a large number of different ways on one side of the heterotic string gives rise to many bosonic interpretations that would naively look distinct but are in fact identical at the self-dual/free fermionic point in the moduli space. We study such 'free fermionic webs' of string models and show how the fermionisation transformations act on the bosonic orbifold input data. A striking implication of this analysis is how both symmetric and asymmetric bosonic orbifolds can be realised from the same free fermionic theory. We furthermore discuss moduli projection in this context and derive a condition on when a free fermionic model is intrinsically asymmetric, i.e. forbids a symmetric (geometric) interpretation.

Presenter: PERCIVAL, Benjamin

Session Classification: Parallel