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New heterotic non-Kähler geometries

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Abstract

New heterotic torsional geometries are constructed as orbifolds of T^2 bundles over $K3$. The discrete symmetries considered can be freely acting or have fixed points and/or fixed curves. We give explicit constructions when the base $K3$ is Kummer or algebraic. The orbifold geometries can preserve $\mathcal{N} = 1, 2$ supersymmetry in four dimensions or be non-supersymmetric.

1 Introduction

Heterotic string compactifications play a prominent role in string theory model building as the standard model gauge group can be easily incorporated

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