Three Roads to 4D Supersymmetric Physics

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Abstract

Abstract: There are three roads to 4D supersymmetric physics from higher dimensional theories: F-theory compactified on the base of an elliptic Calabi-Yau fourfold, M-theory compactified on a space with holonomy G_2, and the heterotic string compactified on a Calabi-Yau threefold with bundle and connection. We will explore recent progress down each of these three roads.

Road 1: Heterotic compactifications

Road 2: F-theory compactifications

Road 3: G2 compactifications