

NEW PERSPECTIVES IN CONFORMAL FIELD THEORY AND GRAVITY

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Superconformal algebras for (twisted) connected sums

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The worldsheet conformal field theory associated to a string compactification is intimately related to the geometry of the underlying compact manifold. In this talk we will explore compactifications on manifolds that can be constructed as a (twisted) connected sum of two open manifolds. At the level of chiral algebras we expect the geometric structure to give rise to a “diamond” of algebra inclusions, and automorphisms of these algebras can be interpreted as candidates for mirror maps on the compact manifold. We will focus on the Schoen Calabi-Yau manifold and, time permitting, we will discuss further examples of holonomy G_2 and $Spin(7)$. This talk is based on [2306.14798] as well as joint work with M.-A. Fiset, [2104.05716].

Summary

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