

Embedding superconformal vertex algebras from Killing spinors and $(0,2)$ mirror symmetry

Luis Álvarez-Cónsul
Instituto de Ciencias Matemáticas, Madrid

Abstract:

I will explain how Killing spinors on quadratic Lie algebras induce embeddings of the $N=2$ superconformal vertex algebra into the corresponding superaffine vertex algebras. The Killing spinor equations can be regarded as purely algebraic conditions on the quadratic Lie algebra, but in fact come from the approach to special holonomy based on generalized geometry on Courant algebroids. As an application, I will present an example of $(0,2)$ mirror symmetry given by pairs of homogeneous Hopf surfaces equipped with a Bismut-flat pluriclosed metric. Joint work with Andoni De Arriba de La Hera and Mario Garcia-Fernandez (arxiv:2012.01851).