

NEW PERSPECTIVES IN CONFORMAL FIELD THEORY AND GRAVITY

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Pure spinor techniques in (twisted) supergravity

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The pure spinor superfield formalism gives a systematic and geometric technique to construct supersymmetric field theories from algebro-geometric input data. Crucially, this procedure provides superfield descriptions where the actions of the supersymmetries is strict and which are compatible with twisting. In this talk, I will demonstrate the merits of the formalism using the example of eleven-dimensional supergravity. In particular, I present a uniform construction of the interacting theory and all its twists realizing them as generalizations of Poisson–Chern–Simons theory. In addition to simplifying the computation of twists immensely, this also sheds some new light on the supergeometric origin of the supergravity theory. The talk is based on joint work with Ingmar Saberi.

Summary

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