SEMINARIO DI GEOMETRIA E ALGEBRA

UNIBA - POLIBA

Mercoledì 30 Aprile 2025 - Ore 15:00 - Aula VIII (primo piano)
Dipartimento di Matematica UniBa

Simone Noja
(Università di Heidelberg)

The geometry of pure spinor superfield formalism

Abstract. 'Supersymmetry multiplets' are a class of representations of the super-Poincaré algebra that underpin all supersymmetric field theories in physics. In this talk, I will explain how the pure spinor superfield formalism offers a systematic method for deriving supersymmetry multiplets from geometric data associated with certain algebraic varieties — namely, nilpotence varieties, which parametrize square-zero elements in a Lie superalgebra. After discussing several examples, I will outline, time permitting, a generalization of the formalism within the framework of derived geometry, in connection with Koszul duality.

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