

Quantum field theory meets gravity



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Hidden exceptional symmetry in the pure spinor superstring

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In the pure spinor formulation of the superstring, in addition to the spacetime bosons and fermions the string worldsheet theory includes a ghost sector described by pure spinor fields. I will discuss the existence of a hidden action of an affine E_6 Lie algebra on this sector, which arises from enhancement of $SO(10)$ spacetime rotations together with a $U(1)$ ghost symmetry, and whose representations encode the ghost spectrum.

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