

Perturbative superstring theory and the IKKT matrix model

Wednesday, 29 November 2023 16:45 (15 minutes)

In this talk, we revisit the “derivation” of the IKKT matrix model from perturbative string theory and discuss how we should define the path integral of the matrix model. In course of the “derivation,” we will see that kappa symmetry is formally enhanced and that there is a subalgebra of the gauge symmetry closed off-shell, in sharp contrast to the fact that the kappa symmetry in the Nambu-Goto/Polyakov-type Green-Schwarz formalism is closed only on-shell. This allows us to utilise the BRST quantisation for the perturbative superstring and provides a construction of vertex operators in the matrix model.

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Session Classification: Parallel Session B