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Exotic geometries from non-abelian GLSMs

Tuesday, 8 April 2025 12:05 (35 minutes)

Non-abelian gauged linear sigma models (GLSMs) have proven to be a powerful tool to analyse Calabi-Yaus and their moduli spaces beyond the framework of toric geometry. In this talk we analyse a particular nonabelian one-parameter GLSM associated to a Calabi-Yau whose Kahler moduli space has two points of maximal unipotent monodromy, indicating the presence of two geometries. At large volume one finds a fairly simple complete intersection in a free quotient of a toric variety, while the small volume region appears to be nongeometric and has some peculiar features like a Coulomb branch. Using techniques from topological string theory and mirror symmetry we collect evidence that the second Calabi-Yau should be a non-commutative resolution of a singular geometry as recently discussed by Katz-Klemm-Schimannek-Sharpe. This is work in collaboration with Joseph McGovern.

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