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## Bounding/Characterizing String Geometries

*Friday 21 July 2023 09:30 (30 minutes)*

In the context of string compactification, classifying possible gauge theories coupled to supergravity is intrinsically linked to classification problems in geometry. In this talk I will briefly review known bounds on the topology of CY manifolds and gauge fields over them. The field theory implications of these constraints can play an important role in characterizing both 4-dimensional  $N=2$  and  $N=1$  string vacua. I will also present new results on the geometry of Calabi-Yau conifold transitions as they arise in heterotic string compactifications. In particular, I will present particular classes of branes/bundles which can traverse the CY geometric transition in a controllable way.

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