

Conifold Transitions and the Anomaly Flow

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Conifold transitions are a mechanism in which a Calabi-Yau 3-fold is deformed into another by contracting curves and smoothing out the resulting conical singularities. It is fantasized that all Calabi-Yau 3-folds can be linked by a sequence of these transitions, however they do not preserve the Kähler condition. In this talk, I will discuss a string-theoretic generalization of the (Ricci-flat) Kähler condition and a proposed method to obtain these structures known as the Anomaly flow. In particular, I will touch upon results that concern the geometrization of conifold transitions and another that determines whether we can extend the Anomaly flow past a certain interval. This is based in part on joint work with B. Friedman and S. Picard.

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