

Curve counting on surfaces and topological strings

Tuesday, July 5, 2022 2:30 PM (1 hour)

I will describe a surprising web of correspondences linking together several a priori distant classes of enumerative invariants associated to a pair (X,D) , with X a complex algebraic surface and D a singular anticanonical divisor in it. These include the log Gromov–Witten invariants of the pair, the Gromov–Witten invariants of an associated higher dimensional Calabi–Yau variety, the open Gromov–Witten invariants of certain special Lagrangians in toric Calabi–Yau threefolds, the Donaldson–Thomas theory of a class of symmetric quivers, and certain open and closed Gopakumar–Vafa-type invariants. I will also discuss how these correspondences can be effectively used to provide a complete closed-form solution to the calculation of all these invariants.

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