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Refined Gromov-Witten invariants

Monday 13 January 2025 16:30 (1 hour)

I will discuss a conjectural definition of refined curve counting invariants of local Calabi–Yau threefolds in terms of equivariant stable maps on Calabi–Yau fivefolds. The corresponding disconnected generating function should conjecturally equate the Nekrasov–Okounkov K-theoretic membrane index under a refined version of the GW/PT correspondence. Physically, this provides a worldsheet definition of the Omega-background refinement of the ordinary topological string.

I’ll present several acid tests validating the conjecture, both in the A and the B-model. This is based on joint work with Yannik Schuler (ETH Zurich), arXiv:2410.00118.

Presenter: BRINI, Andrea