

Quasimodular functions from Donaldson-Thomas invariants

Wednesday, June 5, 2024 11:00 AM (50 minutes)

In this talk, I will explain how to construct quasimodular forms from Betti numbers of moduli spaces of one-dimensional coherent sheaves on the projective plane. This gives a proof of some predictions from theoretical physics about the refined topological string theory in the Nekrasov-Shatashvili limit. The proof of this result combines various tools of modern enumerative algebraic geometry, such as derived categories, Gromov-Witten invariants, and tropical geometry. This work is in part joint with Honglu Fan, Shuai Guo, and Longting Wu.

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