



Σεμινάριο Γεωμετρίας

Generalized Donaldson-Thomas invariants via Kirwan blowups

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Περίληψη

Donaldson-Thomas (abbreviated as DT) theory is a sheaf theoretic method of enumerating curves on a Calabi-Yau threefold. Classical DT invariants give a virtual count of Gieseker stable sheaves provided that no strictly semistable sheaves exist. This assumption was later lifted by the work of Joyce and Song who defined generalized DT invariants using Hall algebras and the Behrend function, their method being motivic in nature.

In this talk, we will present a novel intersection-theoretic approach towards generalized DT theory, obtaining an invariant as the degree of a virtual cycle inside a Deligne-Mumford stack. The main components are an adaptation of Kirwans partial desingularization procedure and recent results on the structure of moduli of sheaves or complexes on Calabi-Yau threefolds. Our approach also gives a framework for refined, K-theoretic generalized DT invariants. Based on joint work with Young-Hoon Kiem and Jun Li.

Παρασκευή 19 Νοεμβρίου 2021, 18:00 - 19:00

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