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Dimensional reduction and cohomological Hall algebras

Thursday, March 6, 2025 10:00 AM (1 hour)

In Donaldson-Thomas theory, dimensional reduction computes certain 3d invariants in terms of 2d ones. Conversely, I will explain how to upgrade 2d invariants to 3d ones using the technique of microlocalization (as generalized to derived algebraic geometry). For example, this allows one to upgrade the 2d cohomological Hall algebras of Kapranov-Vasserot to 3d cohomological Hall algebras for local surfaces. This is joint work with Tasuki Kinjo.

Presenter: KHAN, Adeel A. (Academia Sinica)