

## Calabi-Yau four wall-crossing

*Wednesday 8 October 2025 14:00 (1 hour)*

The Gross-Joyce-Tanaka conjecture proposes a universal wall-crossing formula for Calabi-Yau 4 theories. I will present recent progress towards proving an equivariant refinement of this framework, generalized to include insertions. This refinement can be formulated in terms of particular deformations of vertex algebras produced by adapting Joyce's construction. The utility of the theory is demonstrated through applications to Nekrasov's Magnificent Four conjecture and to proving tautological stable pair correspondences. This project includes joint work with Kuhn, Liu, and Thimm.

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