

A one-day workshop on Enumerative Geometry and Geometric Representation Theory

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Line Operators, cohomological Hall algebras, and affine Grassmannian

Wednesday, December 10, 2025 10:30 AM (1 hour)

Motivated by the study of categories of line operators in 4d N=2 gauge theories, we construct a triangulated monoidal category with a weak braiding starting from a symmetric 3 Calabi-Yau category equipped with additional structures. When the 3 Calabi-Yau category arises from the root datum of an algebraic group, we compare the resulting category with the equivariant derived category of coherent sheaves on the affine Grassmannian.

This talk is based on ongoing joint work with Fujita, Soibelman, and Zhao.

Presenter: YANG, Yaping (University of Melbourne)