



GEOMETRY SEMINAR

Semiorthogonal decompositions of relative Quot schemes

Professor Yukinobu Toda
University of Tokyo

Abstract

In this talk, I will give semiorthogonal decompositions of derived categories of some relative Quot schemes. In the relative dimension zero case, it gives a proof of Jiang's conjecture on semiorthogonal decompositions of derived categories of Quot schemes of locally free quotients. In the relative dimension one case, it gives a one-dimensional analogue of Kapranov's exceptional collection on Grassmannians. They are applied to give semiorthogonal decompositions of derived categories of other classical moduli spaces, e.g. Hilbert schemes of points on surfaces, Brill-Noether loci. The result is a by-product of my project on categorifications of wall-crossing in Donaldson-Thomas theory, and the proof involves techniques of derived algebraic geometry, categorical Hall algebras, matrix factorizations and Koszul duality.

Date:	October 25, 2022 (Tuesday)
Time:	4:00 - 5:00pm
Venue:	ZOOM: https://hku.zoom.us/j/ Meeting ID: 916 6540 8878 Password: 924368

All are welcome