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Quantum K-Theory of Critical Loci

Wednesday, December 10, 2025 4:30 PM (1 hour)

In this talk, I will define a pullback map from the Grothendieck group of coherent matrix factorizations to that of coherent sheaves on a (-1)-shifted Lagrangian inside the critical locus of a function. This map satisfies natural functoriality under composition of Lagrangian correspondences, along with expected properties such as bivariance and base change. I will explain how this construction arises naturally in the study of quantum K-theory for critical loci, with examples drawn from moduli spaces associated to quivers with potentials. This is based on joint work with Y. Cao and Y. Toda.

Presenter: ZHAO, Gufang (University of Melbourne)