

Gepner type stability conditions on graded matrix factorizations

Yukinobu, Toda
(IPMU, Tokyo University)

Abstract:

I will introduce Gepner type Bridgeland stability conditions on triangulated categories. I conjecture that an existence of such a stability condition on a Calabi-Yau 3 category implies a non-trivial relationship among Donaldson-Thomas invariants. The main result is to show the existence of Gepner type stability conditions on triangulated categories of graded matrix factorizations of weighted homogeneous polynomials with low degrees. I also discuss a conjectural construction of such a stability condition on a quintic 3-fold, and relate it to a conjectural stronger version of BG inequality for stable sheaves.