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Towards a KRV_2 action in the derived category

Monday, August 29, 2022 5:00 PM (50 minutes)

Let X be a smooth complex variety. In previous joint work with V. Dolgushev and T. Willwacher, we exhibited an explicit action of GRT_1 on the Gerstenhaber algebra $H^*(X, \mathcal{T}_{\text{poly}})$. This action produces a large supply of nontrivial GRT_1 representations. After reviewing this construction, I will discuss extending it to an action of KRV_2 on the set of those isomorphisms $H^*(X, \mathcal{T}_{\text{poly}}) \cong HH^*(X)$ which correct the HKR map between the harmonic and Hochschild structures of X . A key ingredient is the recent characterization of KRV_2 by Z. Dancso, I. Halacheva, and M. Robertson as automorphisms of a wheeled PROP. This is joint work in progress with M. Robertson.

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