Mathematics and CS Seminar

Symplectic cohomology of conical symplectic resolutions

Alexander Ritter
University of Oxford

Host: Tamas Hausel

In this joint work with Filip Zivanovic, we construct symplectic cohomology for a class of symplectic manifolds that admit C*-actions and which project equivariantly and properly to a convex symplectic manifold. The motivation for studying these is a large class of examples known as Conical Symplectic Resolutions, which includes quiver varieties, resolutions of Slodowy varieties, and hypertoric varieties. These spaces are highly non-exact at infinity, so along the way we develop foundational results to be able to apply Floer theory. Motivated by joint work with Mark McLean on the Cohomological McKay Correspondence, our goal is to describe the ordinary cohomology of the resolution in terms of a Morse-Bott spectral sequence for positive symplectic cohomology. These spectral sequences turn out to be quite computable in many examples. We obtain a filtration on ordinary cohomology by cup-product ideals, and interestingly the filtration can be dependent on the choice of circle action.

Thursday, January 11, 2024 02:00pm - 04:00pm
Heinzel Seminar Room (I21.EG.101), Office Building West, ISTA

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