

BOSTON UNIVERSITY GEOMETRY AND PHYSICS SEMINAR

CONSTRUCTING NEW SYMPLECTIC RESOLUTIONS

Dan Kaplan

UMass Boston

CCDS 365, Jan 29, 2024, 4-5pm

Tea: 3:45pm in Room 365

Abstract: Abstract: Symplectic resolutions are important objects in representation theory (Springer resolution), geometry (Hilbert—Chow morphism), and mathematical physics (3D mirror symmetry / quantization). There is a program to classify all symplectic resolutions of a given singularity. This classification simplifies, e.g., for certain Nakajima quiver varieties, when all such projective symplectic resolutions are given by variation of stability parameter.

Yet proper symplectic resolutions appear to be much more plentiful following Hubbard's recent work in the hyperpolygon case. In joint work in progress with Schedler, we construct new proper, non-projective symplectic resolutions for a wide class of quiver varieties. The key idea is to build invariant Zariski-open subsets of representations of quivers generalizing subsets of semistable representations. In this talk, I will explain these ideas in a minimal example: a toric hyperkähler, quiver variety with quiver affine D_4 .

See <http://math.bu.edu/research/geom/seminar.html> or contact Yu-Shen Lin (yslin@bu.edu) or Brian Williams (bwill22@bu.edu) for more information.