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Proof of the Ginzburg-Kazhdan conjecture

The main theorem of this talk will be that the affine closure of the cotangent bundle of the basic affine space (also known as the universal hyperkahler implosion) has symplectic singularities for any reductive group, where essentially all of these terms will be defined in the course of the talk. After discussing some motivation for the theory of symplectic singularities, we will survey some of the basic facts that are known about the universal hyperkahler implosion and discuss how they are used to prove the main theorem. Time permitting, we will also discuss recent work in progress, joint with Harold Williams, which identifies the universal hyperkahler implosion in type A with a Coulomb branch in the sense of Braverman, Finkelberg, and Nakajima, confirming a conjectural description of Dancer, Hanany, and Kirwan.