

Around the Hikita-Nakajima conjecture

Symplectic duality predicts that symplectic singularities should come in pairs with matching properties. For instance, Nakajima quiver varieties are conjecturally dual to the BFN Coulomb branches of the corresponding quiver gauge theories, while Slodowy varieties should be dual to (covers of) nilpotent orbits. In this talk, I will discuss the Hikita-Nakajima conjecture that relates dual varieties. I will explain a possible approach to proving this conjecture when both symplectic singularities admit symplectic resolutions and illustrate the approach in examples. The talk is based on the joint work with Pavel Shlykov (arXiv:2202.09934) and the work in progress with Do Kien Hoang and Dmytro Matvieievskyi.