Symmetric quivers and symmetric Varieties

Martina Lanini

1. Abstract

In this talk I will report on ongoing joint work with Ryan Kinser and Jenna Rajchgot on varieties of symmetric quiver representations. These varieties are acted upon by a reductive group via change of basis, and it is natural to ask for a parametrisation of the orbits, for the closure inclusion relation among them, for information about the singularities arising in orbit closures. Since the eighties, same (and further) questions about representation varieties in type A flag varieties (Zalevinsky, Bobinski-Zwara, ...). I will explain that in the symmetric setting it is possible to interpret the above questions in terms of certain symmetric varieties. More precisely, we show that singularities of an orbit closure of a symmetric quiver representation variety are smoothly equivalent to singularities of an appropriate Borel Orbit closure in a symmetric variety.