

7/31 [Timothy Logvinenko] McKay correspondence and perverse schobers

A classical result by Seidel and Thomas shows that there is a faithful categorical action of the braid group Br_n on the derived category $D(Y)$ of the minimal resolution Y of the Kleinian singularity C^2/G of A_{n-1} -type. The generators of Br_n act by spherical twists around the exceptional curves of Y . Recall that the classifying space of Br_n is the big open stratum $(h/W)_0$ of h/W stratified by positive roots, where h is a Cartan subalgebra of the corresponding Lie algebra $sl\{n\}$ and W is the Weil group. We can therefore view a categorical action of Br_n on $D^b(Y)$ as a local system of triangulated categories on $(h/W)_0$. In this talk, I will discuss a joint ongoing work with my PhD student Chris Seaman to extend this local system to a perverse schober on the whole of h/W . The idea is to use well-known interpretation of h/W as the theta-stability parameter space for the GIT problem which constructs Y as a moduli space of G -constellations. We then aim to construct a “window-shift” schober for this GIT problem similar to that recently constructed by Spenko and van den Bergh in the Halpern-Leistner and Sam setup of a quasi-symmetric linear action of a reductive group. In our case, the action isn't quasi-symmetric, and numerous complications arise.