

Ersatz parity sheaves and stratifications of algebras

Alexandre Minets (Universität Bonn / MPIM)

KLR algebras can be seen as Ext-algebras of constructible sheaves on a certain space. In characteristic 0, Kato proved that such algebras are (polynomially) quasi-hereditary, under the assumption that the space has finitely many orbits under the action of an algebraic group. This result was extended to characteristic p by McNamara, substituting perverse sheaves techniques for parity sheaves. Unfortunately, this approach does not apply to KLR algebras beyond Dynkin type. I will explain how to extend the theory of parity sheaves to cover the first non-trivial case of Kronecker quiver, and speculate about how to approach other affine types.

Based on arXiv:2504.17430, joint with R. Maksimau.