



ALGEBRA AND GEOMETRY SEMINAR

The Hong Kong University of Science and Technology
Department of Mathematics

Ersatz parity sheaves and stratifications of algebras

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Many important algebras, notably quiver Hecke algebras, can be realized as Ext-algebras of constructible sheaves on a given space. Since representation theorists like highest weight categories, they want to know when such algebras are quasi-hereditary (or polynomially quasi-hereditary, or properly stratified, etc). In characteristic 0, Kato proved a rather general result of this sort, under the assumption that the space has finitely many orbits under the action of an algebraic group. This was extended to characteristic p by McNamara, substituting perverse sheaves techniques for parity sheaves of Juteau-Mautner-Williamson. Unfortunately, this approach do not apply to quiver Hecke 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.

Room 3598 (Lift 27/28) Wed, Nov 19, 2025 04:00 PM

