

Skew-group Algebras in higher Auslander-Reiten Theory

Thursday, July 24, 2025 12:00 PM (30 minutes)

Starting from the classical McKay correspondence, I want to present some interesting interactions between higher Auslander-Reiten theory and the geometry of quotient singularities. I will recall the notions of (higher) representation-infinite algebras and (higher) preprojective algebras, and we will see many examples coming from skew-group algebras. In some special cases, we will answer the question when a skew-group algebra is higher preprojective. Answering this question in so-called “higher type ” gives a correspondence between higher type algebras and crepant divisors, and I want to finish by explaining some open questions. This is based on joint work with Oleksandra Gasanova.

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