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“Linear independence of cluster monomials in skewsymmetric cluster algebras”

In their paper "Cluster algebras IV", Fomin and Zelevinsky formulated a series of conjectures for arbitrary cluster algebras. A few years later, Derksen, JWeyman and Zelevinsky developed a representation-theoretic approach to skewsymmetric cluster algebras via the representation theory of quivers with potential. In this talk I will present a result which uses Derksen-Weyman- Zelevinsky's approach to prove one of the conjectures of Fomin-Zelevinsky for skew-symmetric cluster algebras, namely, the one that asserts that cluster monomials are always linearly independent. This result was obtained in joint work by Giovanni Cerulli Irelli, Bernhard Keller, Pierre-Guy Plamondon and myself.