# On class group of upper cluster algebras

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Cluster algebras are a class of commutative rings introduced by Fomin and Zelevinsky (2002) endowed with a family of distinguished generators, which are constructed recursively using mutations. Cluster algebras have been the focus of intense research since, thanks to the many links that have been discovered with a wide range of subjects, although their ring-theoretic properties are not so well-explored.

In this talk we focus on factorization-theoretic properties of upper cluster algebras, an upper bound for cluster algebras given by the Laurent phenomenon. We show that upper cluster algebras are completely integrally closed domains and FF-domains. Moreover we give a description of the class group of full rank upper cluster algebras in term of the exchange polynomials. This extends results of Garcia-Elsener–Lampe–Smertnig (2019) on acyclic cluster algebras and of Cao–Keller–Qin (2022) on full rank upper cluster algebras.

This is a joint work with D. Smertnig.

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