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*Poisson Cluster Algebras and Unique Factorization.*

Many cluster algebras are known to be unique factorization domains in which the cluster variables are irreducible elements. Moreover, large classes of algebras that are known or conjectured to be cluster algebras have compatible Poisson structures. (This is, in fact, a natural expectation for semiclassical limits of quantum algebras.) We will discuss the reverse direction – how combinations of unique factorization and Poisson structures lead to cluster algebra structures. This applies to algebras from a large class of Poisson UFDs. (Received February 25, 2020)