

Cluster pictures for hyperelliptic curves

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Abstract

Given a hyperelliptic curve $C : y^2 = f(x)$ over a number field K , we can study its reduction behaviour at odd primes using the machinery of cluster pictures, introduced by Dokchitser–Dokchitser–Maistret–Morgan. This allows us to compute a wide range of arithmetic invariants for both C and its Jacobian, including the conductor, minimal discriminant, Tamagawa numbers, whether the curve is semistable, and much more! In this talk, we'll go through several examples of cluster pictures and will prove a couple of neat results about hyperelliptic curves along the way.

Time: 12 p.m, 4th May 2022

Location: B3.02

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