ID de Contribution: **49** Type: **Non spécifié**

Density of specialization sets and Hasse principle in families of twisted Galois covers

jeudi 11 juillet 2019 11:00 (1 heure)

We discuss results on the structure of the set of all specializations of a Galois cover f:X->P^1 with group G over a number field k. Hilbert's irreducibility theorem yields that this set contains infinitely many G-extensions of k. A natural question is then how large this specialization set is compared to the set of all G-extensions. We present evidence for the following conjecture: If f is not of a very special form, then the specialization set is "small" in a density sense (when counted by discriminant). For k=Q, we make concrete progress on this conjecture, essentially reducing it to the abc-conjecture. This connects to a related "sparsity" result in a recent joint work with Dèbes, Legrand and Neftin about the set of rational pullbacks of Galois covers, and also extends results by Granville about the special case of hyperelliptic curves.
As an application of our result, we show that in certain families of "twisted Galois covers", there are "many" curves failing the Hasse principle.
This is joint work with F. Legrand.

Summary

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Classification de Session: Arithmetic geometry and Galois theory