

Séminaire de théorie des nombres

Le 14 juin 2021 à 14h (BigBlueButton)

Unlikely intersections of curves in semiabelian varieties

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Résumé : In this abstract all varieties are defined over the algebraic numbers. A conjecture of Pink predicts that a curve in a semiabelian variety G contains at most finitely many points that lie in an algebraic subgroup of G of codimension at least 2. For tori this is a theorem of Maurin, while Habegger and Pila dealt with abelian varieties. In a joint work with H. Schmidt and L. Kühne we prove the general case of semiabelian varieties following ideas of Bombieri, Habegger, Masser and Zannier and applying the nowadays standard o-minimality counting techniques. After giving a sketch of the proof I will discuss effectivity and present an effective result obtained with M. Sha. Finally, if time allows, I will mention a recent work in collaboration with L. Capuano, L. Merai, A. Ostafe and M. Sha in which we show how certain unlikely intersections theorems in characteristic 0 imply interesting results in finite fields.