

Séminaire de théorie des nombres

Le 14 décembre 2015 à 14h (PRG)

The André-Oort conjecture via o-minimality

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Résumé : The André-Oort conjecture is an important problem in arithmetic geometry concerning subvarieties of Shimura varieties. It attempts to characterise those subvarieties V for which the special points lying on V constitute a Zariski dense subset. When the ambient Shimura variety is the moduli space of principally polarised abelian varieties of dimension g (in which case, a special point is a point corresponding to the isomorphism class of a CM abelian variety), the conjecture has been obtained by Pila and Tsimerman via the so-called Pila-Zannier strategy, reliant on the Pila-Wilkie counting theorem on o-minimal structures. In this talk, we will outline the Pila-Zannier strategy, providing some introduction to Shimura varieties and André-Oort, and explain the state of the art for the full conjecture. In particular, we will mention certain height bounds obtained jointly with Orr.