

Speaker: Tangli Ge

Title: A bounded height theorem on abelian schemes and specialization of Mordell–Weil groups

Abstract: I will talk about a unification of two kinds of bounded height results around abelian varieties. One is due to Silverman from 1983, which states, for an abelian scheme A/C on a curve C over a number field, that the set of points on C where the generic Mordell–Weil group fails to specialize injectively has bounded height. The other is by Habegger in 2008 inside one abelian variety: a geometrically nondegenerate subvariety can be intersected with the union of torsion cosets up to complementary dimensions to give a set of bounded height. I shall take the point of view from unlikely intersections (or rather, just likely intersections), and discuss the key idea of the arithmetic part of the proof by homomorphism approximations, including the application of the mixed Ax–Schanuel theorem.