

Members Seminar

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Small Height and Infinite Non-Abelian Extensions

Series: Members Seminar

Philipp Habegger

University of Frankfurt; Member, School of Mathematics

Date & Time: Mon, 04/08/2013 - 14:00 - 15:00

Location: S-101

Video Link:

<http://video.ias.edu/members/1213/0408-PhilippHabegger>

The Weil height measures the “complexity” of an algebraic number. It vanishes precisely at 0 and at the roots of unity. Moreover, a finite field extension of the rationals contains no elements of arbitrarily small, positive heights. Amoroso, Bombieri, David, Dvornicich, Schinzel, Zannier and others exhibited many infinite field extensions of the rationals with a height gap. For example, the maximal extension of any number field with abelian Galois group has this property. I will present the history of this problem and talk about a new non-abelian example and its application. The example comes from the field generated by points of finite order of an elliptic curve without complex multiplication.

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terms:

- [School of Mathematics](#)