Philadelphia Area Number Theory Seminar

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Effective Oppenheim for generic forms

Abstract: Oppenheim conjecture, proved by Margulis, states that for any $d > 2$, any irrational indefinite quadratic form Q in d variables satisfies that the image of the integers, $Q(\mathbb{Z}^d)$, is dense in the real line. For an effective version, we want to specify how fast does the image become dense when taking integer points from a growing ball. The main difficulty here is to distinguish between rational forms and irrational forms that are very well approximated by rational ones. In this talk I will show how one can bypass this difficulty by considering generic forms, where it is possible to apply a certain shrinking target problem to obtain an essentially optimal rate. This is based on joint work with Anish Ghosh.

Wednesday, March 22, 2017
2:40–4PM

Bryn Mawr College
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Tea and refreshments at 2:20PM in Park 355