

Uniform discreteness of arithmetic groups and the Lehmer conjecture

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Abstract

The famous Lehmer problem asks whether there is a gap between 1 and the Mahler measure of algebraic integers which are not roots of unity. Asked in 1933, this deep question concerning number theory has since then been connected to several other subjects. After introducing the concepts involved, we will briefly describe a few of these connections with the theory of linear groups. Then, we will discuss the equivalence of a weak form of the Lehmer conjecture and the "uniform discreteness" of cocompact lattices in semisimple Lie groups, conjectured by Margulis.

Joint work with Lam Pham.