

# Uniform discreteness of arithmetic groups and Diophantine geometry

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## Abstract

The celebrated Lehmer problem (1933) asks whether there is a gap between 1 and the Mahler measure of algebraic integers which are not roots of unity. While widely open, this problem from number theory has since found many connections to other fields of mathematics, in particular, the theory of discrete subgroups of Lie groups. After introducing the relevant notions, we will describe recent progress on Margulis' conjecture regarding the "uniform discreteness" of cocompact lattices in semisimple Lie groups.

Based on joint works with François Thilmany and Mikolaj Fraczyk.