Du
05
JUIN.
2023

14h00
-
15h00

RENCONTRES DE THÉORIE ANALYTIQUE DES NOMBRES

Explicit (and improved) results on the structure of sumsets

Salle 201, IHP, Paris

INSCRIPTION

Let A be a finite set of integer lattice points in d dimensions, with NA being the set of all sums of N elements from A. In 1992 Khovanskii proved the remarkable result that there is a polynomial $P(N)$, depending only on A, such that the
size of NA equals $P(N)$ exactly, once N is sufficiently large. Khovanskii's theorem shows that the sumset NA enjoys a
certain size 'stability' property, and there is another related stability property pertaining to the structure of NA. But what
does 'sufficiently large' mean in practice? In this talk I will discuss some perspectives on these questions, and explain
joint work with A. Granville and G. Shakan which proves the first explicit bounds for all sets A. I will also discuss
current work with Granville, which gives an optimal bound 'up to logarithmic factors'.

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HORAIRES

L'institut :
• lundi au vendredi de 8h30 à 18h,
• fermé les jours fériés.

Le musée - Maison Poincaré :
• lundi, mardi, jeudi et vendredi
de 9h30 à 17h30,
• samedi de 10h à 18h,
• fermé le mercredi et le dimanche.