

Institut für Analysis und Zahlentheorie

Zahlentheoretisches Kolloquium

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Seminarraum Analysis-Zahlentheorie, Kopernikusgasse 24, 2.OG

A central limit theorem for partitions in small powers

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The study of the partition function $p(n)$, counting the number of solutions of the equation $n = a_1 + \dots + a_\ell$ over integers $1 \leq a_1 \leq \dots \leq a_\ell$, has a long history in combinatorics. In the present talk we consider the following variant of this question: partitions in integers of the form

$$n = \lfloor a_1^\alpha \rfloor + \dots + \lfloor a_\ell^\alpha \rfloor$$

with $1 \leq a_1 < \dots < a_\ell$ and $0 < \alpha < 1$ a fixed real. Using the saddle point method we show a central limit theorem for the number of summands in a random partition of that kind.

This is joint work with Gabriel Lipnik and Robert Tichy.

R. Tichy