A CENTRAL LIMIT THEOREM FOR INTEGER PARTITIONS INTO SMALL POWERS

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The study of the well-known partition function $p(n)$ counting the number of solutions to $n = a_1 + \cdots + a_\ell$ with integers $1 \leq a_1 \leq \cdots \leq a_\ell$ has a long history in combinatorics. In this talk, we discuss a variant, namely partitions of integers into $n = \lfloor a_1^\alpha \rfloor + \cdots + \lfloor a_\ell^\alpha \rfloor$ with $1 \leq a_1 < \cdots < a_\ell$ and some fixed $0 < \alpha < 1$. In particular, we prove a central limit theorem for the number of summands in such partitions.

This is joint work with Manfred G. Madritsch and Robert F. Tichy.

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