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Bodies of constant width that have small volume

Oded Schramm (1988) asked if there are convex bodies (in $\mathbb{R}^n$) of constant width 2 with the volume that is exponentially smaller than the volume of the unit ball $\mathbb{B}^n$.

In this talk I will provide a construction that answers the question of Schramm in affirmative, namely I will show that for a large enough n there is a convex body $M_n \subset \mathbb{R}^n$ of constant width 2 such that $\mathrm{Vol}(M_n) \leq 0.9^n \mathrm{Vol}(\mathbb{B}^n)$.

This talk is based on a joint work with Andriy Bondarenko, Fedor Nazarov, Andriy Prymak, and Danylo Radchenko.