High dimensional sections of centrally symmetric isotropic convex bodies

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We estimate the Lipschitz constant of the volume section function, compute its average and use concentration phenomenum to show:

Let $K \subset \mathbb{R}^n$ *isotropic. For all* $\varepsilon > 0$, $1 \leq k \leq \frac{\varepsilon \log n}{(\log \log n)^2}$, *the set* A *of subspaces* $E \in G_{n,k}$ *such that*

$$\frac{1-\varepsilon}{\sqrt{2\pi} L_K} \leq |E^{\perp} \cap K|_{n-k}^{1/k} \leq \frac{1+\varepsilon}{\sqrt{2\pi} L_K}$$

holds, has probability $\mu(A) \geq c_1 \exp -c_2 n^{0.9}$.

This is joint work with J. Bastero,D. Alonso and G. Paouris.