

Lower bounds on non-central sections of isotropic convex bodies

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Let K be a symmetric isotropic convex body in $\mathbb{R}^d$, L_K be the isotropic constant of K and H be a hyperplane at distance tL_K from the origin for some $0 < t \leq \sqrt{3}$. In the recent works [1] and [2] the asymptotically sharp lower bounds on the quantity $L_K \text{vol}_{d-1}(K \cap H)$ were found.

During the talk we shall briefly discuss the proofs of these bounds, focusing on reformulation of the problem in terms of functional inequalities on log-concave densities and on reduction schemes applied to these inequalities.

REFERENCES

- [1] Melbourne, J., Tkocz, T., Wyczesany, K., A Rényi entropy interpretation of anti-concentration and noncentral sections of convex bodies, *Communications in Contemporary Mathematics*, **28**(2026), no. 1, Paper No. 2550033, 18 pp.
- [2] Jakimiuk, J., Murawski, D., Nayar, P., Lower bounds on non-central sections of isotropic convex bodies, Preprint (2026), arXiv:2606.26318.