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WORKSHOP ON CONVEXITY AND ASYMPTOTIC GEOMETRIC ANALYSIS
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Projections of convex bodies verifying a reverse Petty projection inequality

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We show that every convex body verifies the following reverse Petty projection inequality

$$|K|^{\frac{n-1}{n}} |\Pi^*(K)|^{\frac{1}{n}} \geq \frac{1}{v.r(K)} |B_2^n|^{\frac{n-1}{n}} |\Pi^*(B_2^n)|^{\frac{1}{n}}.$$

We also study, given $0 < \varepsilon < 1$ and $K \subset \mathbb{R}^n$ a convex body, what is the dimension k for which there exists a k -dimensional orthogonal projection $P_E(K)$ verifying a reverse Petty projection inequality

$$|P_E(K)|^{\frac{k-1}{k}} |\Pi^*(P_E(K))|^{\frac{1}{k}} \geq (1 - \varepsilon) |B_2^k|^{\frac{k-1}{k}} |\Pi^*(B_2^k)|^{\frac{1}{k}}.$$

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