

COMPARING MOMENTS OF REAL LOG-CONCAVE RANDOM VARIABLES

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Log-concave random variables play an important role in probability theory. Moment comparison inequalities of the form $\|X\|_p \leq C_{p,q} \|X\|_q$ are particularly useful in concentration of measure and convex geometry. In this talk, I will present optimal bounds of the form $\|X\|_p \leq C_q^{\frac{p}{p-q}} \|X\|_q$ for real log-concave random variables and show that for any $p > q > 0$ the maximum of the ratio $\frac{\|X\|_p}{\|X\|_q}$ is attained for some shifted exponential distribution.