

1094-52-151

Galyna V Livshyts* (glivshyt@kent.edu), 527 Franklin street, Kent, OH 44240. *Maximal surface area of a convex set in \mathbb{R}^n with respect to log concave rotation invariant measures.*

It was shown by K. Ball and F. Nazarov, that the maximal surface area of a convex set in \mathbb{R}^n with respect to the Standard Gaussian measure is of order $n^{\frac{1}{4}}$. We establish the analogous result for all rotation invariant log concave probability measures. We show that the maximal surface area with respect to such measures is of order $\frac{\sqrt{n}}{\sqrt[4]{\text{Var}|X|}\sqrt{\mathbb{E}|X|}}$, where X is a random vector in \mathbb{R}^n distributed with respect to the measure. (Received August 21, 2013)