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On the s-Gaussian Measure in $\mathbb{R}^n$

In this talk, I will present my recent work with Prof. Youjiang Lin. The s-Gauss probability space is introduced based on the s-Gaussian density function in $\mathbb{R}^n$ for $s \geq 0$, a generalization of the classic Gaussian density function. We also propose the (s,k)-Ehrhard symmetrization which is an extension of the traditional Ehrhard symmetrization for sets in $\mathbb{R}^n$. In particular, we establish the s-Gaussian isoperimetric inequality with respect to s-Gaussian measure in $\mathbb{R}^2$ and prove the s-Ehrhard-Borell inequalities for $s > 0$ when one of the two sets is a Borel set whilst the other being a convex set as well as the case when two sets are convex in $\mathbb{R}^1$.