BAOCHENG ZHU, Shaanxi Normal University

The dual-polar Orlicz-Minkowski problems

We will talk about the dual-polar Orlicz-Minkowski problems: under what conditions on a nonzero finite measure μ and a continuous function $\varphi : (0,\infty) \to (0,\infty)$ there exists a convex body $K \in \mathcal{K}_o^n$ such that K is an optimizer of the following optimization problems:

$$\inf / \sup \left\{ \int_{S^{n-1}} \varphi(h_L) d\mu : L \in \mathcal{K}_o^n \right\}?$$

Where h_L is the support function of L and S^{n-1} is the unit sphere. The solvability of the dual-polar Orlicz-Minkowski problems is discussed under different conditions. In particular, under certain conditions on φ, the existence of a solution is proved for a nonzero finite measure μ on S^{n-1} which is not concentrated on any hemisphere of S^{n-1}.