

Graduate Seminar

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1 - 2 pm in HH-3017

The polar dual Orlicz-Minkowski problem

Abstract:

The polar Orlicz-Minkowski problems consider that under what conditions on a nonzero finite measure μ and a continuous function $\varphi : (0, \infty) \rightarrow (0, \infty)$, there exists a convex body K such that K is an optimizer of the following optimization problems:

$$\inf / \sup \left\{ \int_{S^{n-1}} \varphi(h_L) d\mu : L \in \mathcal{K}_0 \text{ and } |L^\circ| = \omega_n \right\}.$$

In this talk, I will discuss the polar-dual Orlicz-Minkowski problem: under what conditions on a measure μ defined on S^{n-1} , continuous functions $\varphi : (0, \infty) \rightarrow (0, \infty)$ and $G(\cdot, \cdot) : (0, \infty) \times S^{n-1} \rightarrow (0, \infty)$ can we find a convex body K which solves the following optimization problems

$$\inf / \sup \left\{ \int_{S^{n-1}} \varphi(h_L) d\mu : L \in \mathcal{K}_0 \text{ and } \tilde{V}_G(L^\circ) = \tilde{V}_G(B_2^n) \right\},$$

where $\tilde{V}_G(K)$ denotes the general dual volume of K .