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The dual Orlicz-Minkowski problem

In 2016, Huang-Lutwak-Yang-Zhang proposed the dual L_p curvature measures and solved the L_p dual Minkowski problem for $0 < p \le n$ in their seminal paper published in Acta Mathematica.

Our main result is the dual Orlicz-Minkowski problem which is a special generalization of their work. These problems are dual to the Orlicz-Minkowski problems (extensions of the classical Minkowski problem involving nonhomogeneous functions). That is: *for a continuous function $\varphi : (0, \infty) \to (0, \infty)$ and μ a given nonzero finite Borel measure on the unit sphere, can we find a constant τ and a convex body K such that $\mu = \tau \widetilde{C}_\varphi(K, \cdot)$?* Here $\widetilde{C}_\varphi(K, \cdot)$ is the dual Orlicz curvature measure of K. Based on the established variational formula for the dual Orlicz quermassintegral, a solution to the dual Orlicz-Minkowski problem regarding the dual Orlicz curvature measure is provided. This poster is based on a joint work with Baocheng Zhu and Deping Ye.