

Title: On the L_p -Minkowski problem with super-critical exponents

Abstract: The L_p -Minkowski problem deals with the existence of closed convex hypersurface with prescribed p -area measure. The problem has been solved in the sub-critical case $p > n-1$, but remains widely open in the super-critical case $p < n-1$. In this talk, we introduce new ideas to solve the problem for all super-critical exponents. A crucial ingredient in the proof is a topological method based on the calculation of the homology of a topological space of ellipsoids. The talk is based on recent joint work with Qiang Guang and Xu-Jia Wang.