DEPING YE, Memorial University

The Minkowski type problems for unbounded convex hypersurfaces

A central object in convex geometry is the Minkowski problem which characterizes the surface area measure of convex bodies. This problem has been extended in various settings which all have close connections with partial differential equations (through the Monge-Ampere equations) and the optimal mass transport problem.

Recently, Schneider initiated the study of the Minkowski type problems for C-close sets, a family of (unbounded) closed convex sets contained in a cone. In this talk, I will talk about our recent progress on the Minkowski type problems for unbounded convex hypersurfaces. These Minkowski type problems generate new Monge-Ampere type equations. The solutions to these Minkowski type problems will also be presented.