

## The Minkowski Problem in Integral Geometry

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The new family of geometric measures, called chord measures, arises from the study of integral geometric invariants of convex bodies. The Minkowski problems for the new measures are proposed and attacked. When the given ‘data’ is sufficiently regular, these problems are a new type of fully nonlinear partial differential equations involving dual quermassintegrals of functions, and include one of Christoffel-Minkowski Problem as a critical case. Major cases of these Minkowski problems are solved without regularity assumption.

This is joint work with Erwin Lutwak, Deane Yang, and Gaoyong Zhang.