

An International Conference to
Celebrate the Birthday of Shing-Tung Yau
August 27-September 1, 2008

THE PROBLEM OF PRESCRIBING CURVATURE MEASURES

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Abstract: We discuss the problem of prescribing curvature measures arising in classical geometry. Much attention has been paid to the problem of prescribing area measures, sometime it is called the Christoffel-Minkowski problem. Until now, very little is known for the corresponding problems related to the curvature measures, except in the case of the Alexandrov problem. We will report some recent progress in this direction: the existence of convexity solutions (joint work with C.S. Lin and X. Ma) and C^2 a priori estimates for the admissible k -convex starshaped solutions (joint work with J. Li and Y.Y. Li).