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Joint Geometric Analysis Seminar

(Part of MIST program)

Organizers: Professor Conan Leung and Professor Martin Li

Classical Neumann Problems for Hessian Equations and Geometric Applications

Professor Guohuan Qiu
Department of Mathematics
The Chinese University of Hong Kong

Abstract: The classic Neumann problem for Laplace equation has many geometric applications. For example, Reilly used its solution to give a new proof of Minkowski inequality. Prof. Xinan Ma and me, have proved the existence of the Neumann problems for Hessian equations in a uniformly convex domain in \mathbb{R}^n . Motivated from Reilly and Ma-Qiu's work, Chao Xia and me also find geometric applications about classical Neumann problems for Hessian equations. We will talk about how to prove the existence of classical Neumann problems under the uniformly convex domain. Then we use the solution of the classical Neumann problem to give a new proof of a family of Alexandrov-Fenchel inequalities arising from convex geometry.

Date: Thursday, 20 September 2018
Venue: Rm. 502a, Academic Building No.1
The Chinese University of Hong Kong, Shatin
Time: 10:30 a.m. – 11:30 a.m.

All are Welcome!