

Preface

Founded in 1935, the Institute of Mathematical Statistics (IMS) is an international professional and scholastic society devoted to the development, dissemination, and application of statistics and probability. To foster the development and dissemination of the theory and applications of statistics and probability, IMS China was launched in 2008. At the same time the first IMS China International Conference on Statistics and Probability was held in Hangzhou in June 11-13, 2008, hosted by Zhejiang University. About 250 participants in China and abroad attended the conference. Participants enjoyed plenty of interesting invited talks of very high quality, which stimulated further discussions.

To reach out to a larger audience and to further promote probability and statistics in China, we offer this special issue of papers in probability theory and stochastic analysis, related to the topics of the conference. Most of the papers were written by the invited speakers or committee members of the conference. They are either original research articles or surveys of active areas of current research interests. We selected also a few related submitted papers. The topics discussed in this issue cover a wide range of active areas in probability theory, including G -Brownian motion and stochastic calculus under sub-linear G -expectation, fractal structure of Lévy processes, Gaussian random fields, random matrices, heat kernel estimates for symmetric jump processes, nonlinear forward-backward stochastic differential equation, stochastic Navier-Stokes equations with Lévy noises, financial mathematics and risk analysis, metric entropy and maximum likelihood estimator, random mappings, general collision branching processes. We hope that the audience could share part of the flavor of the first IMS China Conference through reading the papers in this special issue.

All the papers are peer refereed. This special issue is guest edited by Professors Zhen-Qing Chen, Wenbo Li and Shige Peng. Professor Zhi-Ming Ma serves as the journal editor on behalf of the editorial board of *Science in China Series A: Mathematics*.

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