



复旦大学数学科学学院 数学综合报告会

报告题目: **Maximum a posteriori estimates and sparsity in Bayesian inversion**

报告人: Dr. Tapio Helin

(University of Helsinki, Finland)

报告时间: 2016-10-31 星期一 10:00-11:00

报告地点: 光华东主楼 1801

摘要: A demanding challenge in Bayesian inversion is to efficiently characterize the posterior distribution. This task is problematic especially in high-dimensional non-Gaussian problems, where the structure of the posterior can be very chaotic and difficult to analyse. Often, in inverse problem literature one uses point estimators for this task. Here we discuss the maximum a posteriori (MAP) estimate, which is a computationally efficient method since it relates to an optimization problem. However, the scalability of the MAP estimate with respect to the discretization level has been an issue and in this talk we discuss its definition for infinite-dimensional problems. Moreover, we consider how Bregman distance can be used to characterize the MAP estimate. This is joint work with Martin Burger (University of Münster, Germany), Masoumeh Dashti (University of Sussex, UK) and Sergios Agapiou (University of Cyprus, Cyprus).

非线性数学模型与方法教育部重点实验室
中法应用数学国际联合实验室
上海市现代应用数学重点实验室
复旦大学数学研究所