数学与系统科学研究院

计算数学所学术报告

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报告题目：

Moments and growth indices for the nonlinear stochastic heat equation with rough initial conditions

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报告时间：**2013** 年 **5** 月 **6** 日（周一）

上午 **9:30-10:30**

报告地点：　科技综合楼三层 **311**

计算数学所报告厅

Abstract：

In this talk, I will first give a short introduction to the Walsh integral (see his lecture notes in 1984), which is a generalization of the It^o integral to the multi-index case. Then I will show how to use this integral to study the nonlinear stochastic heat equation subject to multiplicative space-time white noise. The initial data can be any Borel measures with certain mild conditions. I will present the proof the existence and uniqueness of a random field solution. We keep a tight control over the moments in the Picard iteration scheme and do not appeal to Granwall's lemma. As a consequence, we obtain upper and lower bounds on all p-th moments of the solution for all p _ 2 with t > 0 and x\in R fixed. As one application of the moment formula, we determine the growth indices introduced by Conus and Khoshnevisan (2010) and resolve one open problem therein.

This is joint work with Professor Robert C. Dalang.

欢迎大家参加！