

数学与系统科学研究院
计算数学所系列学术报告

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报告题目:

**Optimal Sparse Control of Partial
Differential Equations**

邀请人: 龚伟 博士

报告时间:

Lecture 1: 2014 年 5 月 26 日 (周一) 下午 15:00-17:00

Lecture 2: 2014 年 5 月 27 日 (周二) 上午 10:00-12:00

报告地点: 科技综合楼三层 311

计算数学所报告厅

Abstract:

In the control of distributed parameter systems, those formulated by partial differential equations, usually we cannot put control devices at every point of the domain. Actually, we are allowed to use small regions to put the controllers. Then, the big issue is which region is the most convenient to localize them. Of course, we have to determine the power of the controllers as well. These controls are called sparse because they are not zero only in a small region of the domain. In the last few years, some researchers have focused their investigation in this direction. It has been observed that the use of the L^1 norm of the control in the cost functional leads to the sparsity of the solution. Of course, this introduces some mathematical difficulties in the problem due to the lack of differentiability of this functional. However, despite this difficulty, a lot of progress has been done and the numerical computations show the interest and applicability of this approach.

欢迎大家参加!