

数学与系统科学研究院

计算数学所学术报告

报告人: **Prof. Ryan Loxton**

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报告题目:

**Eliminating Control Volatility via
Nonlinear Optimization**

邀请人: 优化与应用研究中心

报告时间: **2019 年 4 月 25 日 (周四)**

上午 8:30-9:30

报告地点: **科技综合楼三层**

311 报告厅

Abstract:

Change is necessary in any dynamic environment, but there is always a cost incurred when implementing change; one of the most obvious is wear and tear on the physical components in a system. In the optimal control field, the cost of change is almost always ignored, and this can lead to “optimal” control strategies that are volatile and impractical to implement. This talk introduces a class of non-smooth optimal control problems in which the cost of change is incorporated via an objective term that penalizes the total variation of the control signal. We describe a discretization method, based on nonlinear programming, for solving this class of problems and discuss two applications in fisheries and crane control. The talk concludes with a discussion of several large-scale optimization problems arising in the mining and offshore oil and gas industries.

欢迎大家参加！