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：

Optimal control of differential–algebriac equation

邀请人： **白中治研究员**

报告时间： **2008 年 10 月 28 日(周二)**

上午 10:30—11:30

报告地点： **科技综合楼三层 311**

计算数学所报告厅

Abstract:

We study optimal control problems for general unstructured nonlinear differential–algebraic equations of arbitrary index. Such problems arise in the control of turbulent flow, or in automatic gear boxes. We present several industrial examples. We derive necessary conditions in the case of linear–quadratic control problems and extend them to the general nonlinear case. This solves a long–standing open problem in control.

We also present a Pontryagin maximum principle for general unstructured nonlinear DAEs in the case of restricted controls.

Moreover, we discuss the numerical solution of the resulting two–point boundary value problems and present a numerical example.

This is joint work with Peter Kunkel

欢迎大家参加！