

数学与系统科学研究院

计算数学所学术报告

报告人: Prof. Xiao-Chuan Cai

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报告题目:

**Domain Decomposition Methods for
Multiphysics Problems**

邀请人: 许学军研究员

报告时间 1: 2008 年 8 月 4 日(周一)

下午 2:00—5:00

报告时间 2: 2008 年 8 月 7 日(周四)

下午 2:00—5:00

**报告地点: 科技综合楼三层 301
计算数学所报告厅**

Abstract:

In this talk, we discuss some recent development of scalable parallel algorithms for solving large scale linear and nonlinear systems arising from the discretization of a wide range of multiphysics problems. These techniques are based on a combination of domain decomposition and multigrid methods, both have been well studied for linear elliptic type problems. The focus of this talk is on the further development of these methods for some much harder multiphysics problems, such as magnetohydrodynamics, boundary control of Navier–Stokes equations, bio–fluid dynamics, and parameter identification problems. Scalability results obtained on supercomputers with thousands of processors will be presented.

欢迎大家参加！