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：

Some Problems in Numerical Linear Algebra

邀请人：　　白中治研究员

报告时间：**2011** 年 **9** 月 **9** 日（周五）

上午 **9：00-12：00**

报告地点：　　科技综合楼三层 **311**

计算数学所报告厅

Abstract:

In this series of lectures there are four "Themes" concerning some recent work on several different problems closely related to eigenvalue problems in numerical linear algebra.

Theme 1: A new approach to some classic problems in numerical linear algebra

We shall start by making a simple observation about a linear system with a bordered matrix. This leads to a new method for the standard eigenvalue problem called the "Implicit Determinant Method" first introduced by Spence & Poulton (JCP, 204 (2005) pp. 65-81) and based on earlier work in numerical bifurcation by Griewank & Reddien (SIAM J Numer Anal.(1984)pp.176-185). This approach leads to interesting new approaches for computing a Jordan block in a parameter- dependent matrix, and distance problems in numerical linear algebra, for example, computing the stability radius of a matrix. Relevant papers are:

a) Freitag & Spence, "A Newton-based method for the calculation of the distance to instability", LAA (2011) pp. 3189-3205

b) Akinola, Freitag & Spence, "A method for the computation of Jordan blocks in parameter dependent matrices", (submitted to Numerische Mathematik).

欢迎大家参加！