数学与系统科学研究院

计算数学所定期学术报告

报告人：　**Prof. Shufang Xu**

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报告题目：

On a quadratic inverse eigenvalue problem

邀请人：　　白中治研究员

报告时间：**2011** 年 **6** 月 **9** 日（周四）

下午 **16：00～17：00**

（**15：30～16：00** 茶歇）

报告地点：　　科技综合楼三层 **311**

计算数学所报告厅

Abstract:

In this talk, the speaker will focus his attention on the quadratic inverse eigenvalue problem (QIEP) of constructing real symmetric matrices M, C, and K of size n£n, with M nonsingular, so that the quadratic matrix polynomial $Q(\lambda) \equiv \lambda^2 M + \lambda C + K$ **has a completely prescribed set of eigenvalues and eigenvectors. The speaker plans to show that the QIEP has a solution if and only if** $r < 2n$ **and** $\delta > 0$**, where r and** δ **are determined by the prescribed spectral data. A necessary and suffcient condition for the existence of a solution to the QIEP with M being positive definite is also presented in a constructive way. Furthermore, two algorithms are proposed: one is for solving the QIEP; another is for finding solution with M being positive definite. Numerical results illustrating the performance of the proposed algorithms are also presented.**

欢迎大家参加!