数学与系统科学研究院

计算数学所学术报告

报告人： **Dr. Yong Xia**

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报告题目：**On the Estimation of Duality Gap in Box Constrained Nonconvex Quadratic Program**

邀请人： 袁亚湘研究员

报告时间：2010 年 6 月 1 日（周二）

下午 3:30-5:00

报告地点：科技综合楼三层 **311**

计算数学所报告厅

摘要： We study in this paper the duality gap between box constrained nonconvex quadratic programming and its Lagrangian dual or semidefinite relaxation. We use certain perturbed distance $\delta(\theta)$ between a polyhedral set and a nonconvex set to measure the unsatisfaction of the optimality conditions for zero duality gap. An underestimation of the duality gap is then obtained by computing a suitable θ^*, which leads to a reduction of the duality gap proportional to $\delta^2(\theta^*)$ and the minimum positive eigenvalue of a perturbed matrix of the quadratic objective function. We also show that the computation of the duality gap estimation can be reduced to the cell enumeration of hyperplane arrangement in discrete geometry. This is a joint work with Prof. Xiaoling Sun and Prof. Duan Li.

欢迎大家参加！