

数学与系统科学研究院

计算数学所学术报告

报告人: **Prof. Jie Sun**

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报告题目: **THE LINEAR
COMPLEMENTARITY PROBLEM
UNDER UNCERTAINTY**

邀请人: **戴彧虹研究员**

报告时间: **2010年6月8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

Abstract: We study the linear complementarity problem (LCP) with data uncertainty.

Given $(M(y), q(y)) \in \mathbb{R}^{n \times n} \times \mathbb{R}^n$ where y are random elements, the target is to find $x \in \mathbb{R}_+^n$ such that the risk of $F(x, y) := M(y)x + q(y) \neq 0$ and the risk of $\langle x, F(x, y) \rangle \neq 0$ are both small. We define and study the notion of violation measures, in particular those induced by the sublinear expectation in the probability theory. As a result, a new LCP model under uncertainty is developed in terms of finding $x \geq 0$ such that $\rho(F(x, y)) \leq 0$ and $\langle x, \tau(F(x, y)) \rangle = 0$, where ρ and τ are two violation measures. The model is general enough to include many current stochastic LCP models and is also simple enough to be computationally tractable under standard assumptions used in robust optimization.

欢迎大家参加!