数学与系统科学研究院

计算数学所学术报告

报告人：　Prof. Xin Chen

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报告题目：

Inventory Centralization Games

邀请人：　　袁亚湘研究员

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　　　　　　下午 15:00—16:00

报告地点：　科技综合楼三层 311

　　　　　　计算数学所报告厅

Abstract:

As companies start exploring innovative collaboration strategies in effort to improve their supply chain efficiency, getting all players to agree on how to share costs and benefits was identified as one of the major barriers to collaborative commerce. To gain some basic understanding of the cost allocation issue in supply chain cooperation, we analyze several fundamental inventory centralization games: the single period inventory game with stochastic demand and quantity discount, the economic lot sizing game and the capacity investment game, by employing the cooperative game theory. In such games, a number of retailers may form joint ventures to build production facilities, make joint production (or place joint orders) and/or keep centralized inventories by taking advantage of economies of scale and/or risk pooling effects. The analysis of cost allocation in these games gives arise to a variety of challenging non-convex minimization problems, for which we develop interesting optimization techniques by exploiting the problem structures.

报告人简介：

Xin Chen is an assistant professor at the University of Illinois at Urbana-Champaign. He obtained his PhD from MIT in 2003, MS from Chinese Academy of Sciences in 1998 and BS from Xiangtan University in 1995. His research interest lies in optimization and supply chain management. His research won the prestigious George Nicholson Student Paper Competition: Honorable Mention (2002) and MSOM Student Paper Competition： Second Place (2002). He has published in top journals, including Operations Research, Mathematical Programming, Mathematics of Operations Research, and SIAM Journal on Optimization. He is the coauthor of the book "The Logic of Logistics: Theory, Algorithms, and Applications for Logistics and Supply Chain Management" Second Edition.

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