

运筹学与信息科学研究所

Department of Operations Research and Information Science

学术报告

题目: Randomized strategy proof mechanisms with best of both worlds fairness and efficiency

报告人: 陈 礪 教授, 英国华威大学商学院

时间: 3月22日 (星期五) 15:00 – 16:00

地点: 数学院南楼 N602

摘要: We study the problem of mechanism design for allocating a set of indivisible items among agents with private preferences on items. We are interested in such a mechanism that is strategy proof (where agents' best strategy is to report their true preferences) and is expected to ensure fairness and efficiency. We first present an impossibility result that a deterministic mechanism does not exist that is strategy proof, fair and efficient for allocating indivisible chores (i.e., items with disutilities). We then utilize randomness to overcome the strong impossibility. For allocating indivisible chores, we propose a randomized mechanism that is strategy proof in expectation as well as ex-ante and ex-post (best of both worlds) fair and efficient. For allocating mixed items, where an item can be a good (i.e., with a positive utility) for one agent but a chore or another, we propose a randomized mechanism that is strategy proof in expectation with best of both worlds fairness and efficiency when there are two agents.

关键词: Multi-agent systems, resource allocation, mechanism design, strategy proof; randomization

报告人简介: 陈礪, 英国社会科学院院士, 运筹学会 (ORS) 会士, 数学及其应用学会 (IMA) 会士。英国华威大学教授, 兼复旦大学讲座教授。自 2006 年起为诺贝尔经济学奖提名专家。曾获 1997 年英国经济与社会研究基金会管理学研究奖, 2007 年英国工程与物理科学研究基金会科学与创新奖。他的主要研究方向包括组合最优化、调度与运输、博弈论与机制设计。