数学与系统科学研究院

计算数学所学术报告

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报告题目：

On the binary Eisenberg-Noe model and its extension

邀请人：　戴彧虹研究员

报告时间：2018 年 2 月 2 日（周五）

下午 16:00--17:00

报告地点：　数学院南楼N714 教室

报告摘要：

In a financial network, the failure of a key institution can spill over to other institutions and even to the whole network. It is an important problem how to identify these key institutions.

We develop a conservative bankruptcy strategy assuming that banks in the network only have two status: bankrupt or totally solvent. Key institutions can be efficiently found out with bailout fund invested in a network under this assumption. Then the system risk management problem can be formulated into a mixed integer linear programming (MILP). In order to maximize the number of totally solvent banks, an L_0 term is added to the objective function, thus leading to a sparse MILP. We prove that this obtained sparse MILP is an NP-hard problem. We also give a series of greedy algorithms based on the contagious property of the market shock. Numerical results are presented to show the efficiency of the algorithms.

欢迎大家参加！