

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:

**Joint Base Station Association and
Power Control: Computation and
Complexity**

邀请人: 刘亚锋 博士

报告时间: **2014 年 6 月 25 日 (周三)**

上午 10:00-11:00

报告地点: 科技综合楼三层 **301**

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Abstract:

Wireless networks are becoming increasingly dense due to the surge of mobile devices and low-power base stations (BS), making the user-BS association an important design challenge in future 5G networks. In this talk, we consider the joint BS association and power control problem under the max-min fairness criterion, which involves both discrete and continuous variables. For the uplink problem, we propose a fixed point algorithm that converges to its global optima at a geometric rate, which implies the pseudo-polynomial time solvability of the problem. For the downlink problem, we establish the NP-hardness and then show that the problem becomes polynomial time solvable under additional practical constraints. The new problem can be solved to global optima in a distributed fashion by combining the well-known auction algorithm for maximum bipartite matching and a fixed point algorithm. Simulation results validate the efficiency and efficacy of the proposed algorithms.

欢迎大家参加!