

数学与系统科学研究院

计算数学所学术报告

报告人: **Professor Zhi-Quan Luo**

( *Department of Electrical and Computer Engineering, University of Minnesota* )

报告题目:

**Optimal Joint Provision of Backhaul  
and Radio Access Networks**

邀请人: 刘亚锋 博士

报告时间: **2014 年 6 月 2 日 (周一)**

**上午 10:00-11:00**

报告地点: 科技综合楼三层 **311**

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## **Abstract:**

We consider a cloud-based heterogeneous network of base stations (BSs) connected via a backhaul network of routers and wired/wireless links with limited capacity. The optimal provision of such networks requires proper resource allocation across the radio access links in conjunction with appropriate traffic engineering within the backhaul network. In this work we propose an efficient algorithm for joint resource allocation across the wireless links and the flow control over the entire network. The proposed algorithm, which maximizes the min-rate among all the transmitted commodities, is based on a decomposition approach that leverages both the Alternating Direction Method of Multipliers (ADMM) and the weighted-MMSE (WMMSE) algorithm. We show that this algorithm is easily parallelizable and converges globally to a stationary solution of the joint optimization problem. The proposed algorithm can also be extended to networks with multi-antenna nodes and other utility functions.

欢迎大家参加!