

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:

**Power Efficient Robust Admission
Control**

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311 报告厅

Abstract:

Previous work on Joint power and admission control (JPAC) assumes perfect instantaneous channel states or instantaneous power allocation for changeable channel states. However, instantaneous channel states is prone to error in practical system and instantaneous power allocation will lead to extravagant transmission power. In this work, we both assume random channel gains with certain distribution information, and admit different power allocation for different channel state, so power allocation is function of random channel gains. We formulate the JPAC problem into a probabilistic constrained program, and use sample approximation to avoid computational difficulty of the chance SINR constraints. We reformulate the sampled linear system as a group sparse l_0 minimization problem and relax it to a smooth $l_2=l_1$ convex program, which can be efficiently solved due to its structure. The solution to the program can be used to check the simultaneous supportability of all links in the network, and can guide iterative link removal procedure for deflation algorithm. Numerical simulations show the advantages of the deflation algorithm in terms of number and stability of supported links as well as power efficiency.

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