

# D2D 通信中资源分配与功率优化联合算法

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**摘要:** 针对 D2D 通信引入蜂窝网络时产生的资源分配问题, 提出了一种有效的联合匈牙利资源分配算法 JOHG, 通过对 D2D 用户与蜂窝用户进行频谱资源和传输功率的优化分配, 算法可以实现异构网络中传输速率最大化. 在求解关联矩阵的基础上, 联合优化被转化为非凸优化问题并利用连续的凸估计策略 SCA 进行求解. 仿真结果验证了所提算法的有效性.

**关键词:** D2D 通信; 匈牙利算法; 联合资源分配; 关联矩阵; 连续凸估计

## Joint Algorithm of Resource Allocation and Power

## Optimization in for Device-to-Device (D2D) communication

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**Abstract:** In order to reuse the spectrum resources and enhance system capacity, this paper proposes a novel radio resource allocation algorithm JOHG based on Joint Hungarian method. The presented algorithm can maximize transmission rate in heterogeneous network through the joint optimal allocation of spectrum resources and transmission power between D2D users and cellular users. Based on the association matrix, the Joint optimization problem is converted into a typical convex problem using the successive convex approximation. Simulation results show that the proposed algorithm can improve the overall performance of the system.

**Key words:** Device-to-Device communications; Hungarian method; joint resource allocation; association matrix; successive convex approximation

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