

带次模惩罚的仓库—零售商网络设计问题的近似算法

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An Approximation Algorithm for the Warehouses-Retailer Network Design Problem with Submodular Penalties

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摘要 本文研究了一个带次模惩罚的仓库—零售商网络设计问题. 在该类问题中, 允许以支付惩罚费用为代价, 拒绝给部分零售商供货, 并且我们假设问题的惩罚费用函数是一个不减的非负次模函数. 对于此问题, 我们给出一个近似比为3的原始对偶算法.

关键词: [仓库—零售商](#) [近似算法](#) [网络设计](#)

Abstract: In this paper, we study the warehouses-retailer network design problem with submodular penalties. In this problem, we might not choose to serve some retailers at the cost of paying a penalty cost which is assumed to be a non-decreasing nonnegative submodular function. We propose a primal-dual approximation algorithm with a performance factor of 3 for this problem.

Key words: [warehouse-retailer](#) [approximation algorithm](#) [network design](#)

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