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« 前一页 | 后一页 »

### 共用模式下的空托盘调配决策方案优化研究

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## Study of Decision Scheme Optimization for Empty Pallets Dispatching Based on Pallet Pool Mode

摘要 图/表 参考文献 相关文章 (9)

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**摘要** 共用模式下合理的空托盘调配能够提高托盘的利用率、降低运输成本、减少资源浪费。基于托盘共用模式，以公路和铁路运输为主要运输方式对空托盘调配决策方案进行优化研究。对空托盘调配的运输网络的节点进行拆分，细化节点处的作业模式。综合考虑各种影响空托盘调运的因素，针对实际运输特点，以包括装运费用、库存费用和租赁费用在内的总的调配费用最小为目标构建优化模型，同时结合客户对空托盘的时间约束构建路径运送时间优化模型。利用ILOG Cplex数学优化软件对模型求解。最后通过算例分析验证了共用模式下该模型的可行性及优越性。

**关键词** : 决策方案, 综合运输, 空托盘调配, 托盘共用模式, 优化模型

**Abstract** : The scientific dispatching of empty pallets based on the pallet pool can improve the utilization rate of pallets, improve transport efficiency, reduce resource consumption and save transport costs. Based on the pallet pool mode, this paper studies the scheme of empty pallet dispatching in the transport of highway and railway. To refine operation mode of node, it's necessary to split the nodes of empty pallet dispatching network. The paper considers various factors of influencing the empty pallet transportation, according to the actual transport characteristics, takes the minimum total dispatching cost which includes shipping cost, inventory cost and rental cost as objective to construct optimization model, and constructs transit time optimization model of path based on the time constraint of customers for empty pallets dispatching. Using the ILOG Cplex mathematical software to solve the model. Finally, the feasibility and superiority of this model is confirmed by a case.

**Key words** : decision scheme multimodal transport empty pallets dispatching pallet pool mode optimization model

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