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线性与非线性规划算法与理论

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Advances in linear and nonlinear programming

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- 摘要
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摘要 线性规划与非线性规划是数学规划中经典而重要的研究方向. 主要介绍该研究方向的背景知识，并介绍线性规划、无约束优化和约束优化的最新算法与理论以及一些前沿与热点问题. 交替方向乘子法是一类求解带结构的约束优化问题的方法，近年来倍受重视. 全局优化是一个对于应用优化领域非常重要的研究方向. 因此也试图介绍这两个方面的一些最新研究进展和问题.

关键词: 线性规划 非线性规划 无约束优化 约束优化 交替方向乘子法 全局优化

Abstract: Linear and nonlinear programming is a classical branch in mathematical programming. We introduce some backgrounds on linear and nonlinear programming, and some new methods and new research advances in linear programming, unconstrained and constrained optimization. The alternating direction method of multipliers is very efficient in solving some constrained optimization problems with special structure and has been attracted much attentions in recent years. Global optimization is specially important for applications of optimization. These two topics are also involved.

Keywords: linear programming, nonlinear programming, unconstrained optimization, constrained optimization, alternating direction method of multipliers, global optimization

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