

## 中国数学规划学科发展概述

中国运筹学会数学规划分会

## An overview of mathematical programming research in China

The Mathematical Programming Branch of Operations Research Society of China

- [摘要](#)
- [参考文献](#)
- [相关文章](#)

[Download: PDF \(706KB\)](#) | [HTML \(1KB\)](#) | [Export: BibTeX or EndNote \(RIS\)](#) | [Supporting Info](#)

**摘要** 数学规划又称数学优化,是运筹学的一个重要分支.它主要研究在一定约束条件下,如何求一个实数或者整数变量的实函数的最大值或者最小值.它是运筹学和管理科学中最常用的一种建模工具和求解问题的方法,在工程、经济和金融等领域有非常广泛的应用.首先简单介绍数学规划的发展历史、应用领域及其主要研究方向;然后简述数学规划的发展现状和在中国的发展进程;最后,讨论数学规划若干研究前沿问题与研究展望.

**关键词:** [数学规划](#) [最优化](#) [学科概述](#) [学科发展现状](#) [研究展望](#)

**Abstract:** Mathematical programming or mathematical optimization is an important branch of operations research that studies the problem of minimizing or maximizing a real function of real or integer variables, subject to constraints on the variables. It is one of widely used modeling tools and methodologies in operations research and management science and has numerous applications in engineering, economics and finance. In this chapter, we first give a brief introduction of mathematical programming problems, its history, applications and main research areas. We then review the state-of-the-science of mathematical programming study with an overview of the development of mathematical programming in China. Research perspectives of mathematical programming is also presented.

**Keywords:** [mathematical programming](#), [optimization](#), [overview of mathematical programming in China](#), [state-of-the-science of mathematical programming](#), [research outlook](#)

**基金资助:**

中国科学技术协会“运筹学学科发展”资助


**引用本文:**

.中国数学规划学科发展概述[J] 运筹学学报, 2014,V18(1): 1-8

.An overview of mathematical programming research in China[J] OR TRANSACTIONS, 2014,V18(1): 1-8

**链接本文:**

[http://202.120.127.195/shu\\_ycxxb/CN/](http://202.120.127.195/shu_ycxxb/CN/) 或 [http://202.120.127.195/shu\\_ycxxb/CN/Y2014/V18/I1/1](http://202.120.127.195/shu_ycxxb/CN/Y2014/V18/I1/1)

- [1] Dantzig G B. Linear programming [J]. Operations Research, 50: 42-47, 2002.
- [2] Cottle R, Johnson E, Wets R. George B. Dantzig (1914-2005) [J]. Notices of the AMS, 54: 344-362, 2007.
- [3] Kuhn H W. Being in the right place at the right time [J]. Operations Research, 50: 132-134, 2002.
- [4] Bland R G, Goldfarb D, Todd M J. The ellipsoid method: a survey [J]. Operations Research, 29: 1039-1091, 1981.
- [5] Karmarkar N. A new polynomial-time algorithm for linear programming [C]//Proceedings of the Sixteenth Annual ACM Symposium on Theory of Computing, New York: ACM, 1984, 302-311.
- [6] 中国科学技术协会. 运筹学学科发展报告 [M]. 北京: 中国科学技术出版社, 2014.
- [7] Robert E. Bixby. Solving real-world linear programs: a decade and more of progress [J]. Operations Research, 2002, 50: 3-15. 

### Service

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [加入引用管理器](#)
- ▶ [Email Alert](#)
- ▶ [RSS](#)

### 作者相关文章

- [8] 管梅谷. 奇偶点图上作业法 [J]. 数学学报, 1960, 10: 263-266.
- [9] Yue M, Han J. On the sequencing problem of flow shop [C]//Proceedings of the Seventh IFORS International Conference on Operational Research, 1976.
- [10] Yue M, Han J. New reduced gradient method [J]. Scientia Sinica, 1979, 22: 1099-1113.
- [11] Yu W. Positive basis and a class of direct search techniques [J]. Scientia Sinica, Special Issue of Mathematics, 1979, 1: 53-67.
- [12] Hong C S, Zheng Q. Integral Global Optimization: Theory, Implementation and Applications [M]. Berlin: Springer-Verlag, 1988.
- [1] 戎卫东, 杨新民. 向量优化及其若干进展[J]. 运筹学学报, 2014,18(1): 9-38
- [2] 黄正海, 林贵华, 修乃华. 变分不等式与互补问题、双层规划与平衡约束数学规划问题的若干进展[J]. 运筹学学报, 2014,18(1): 113-133
- [3] 黎健玲, 谢琴, 简金宝. 均衡约束数学规划的约束规格和最优性条件综述[J]. 运筹学学报, 2013,17(3): 73-85
- [4] 楼焯, 高越天. 关于一些凸规划问题的复杂性研究结果[J]. 运筹学学报, 2012,16(4): 112-124
- [5] 孙小玲, 白晓迪, 郑小金. 概率约束最优化问题[J]. 运筹学学报, 2012,16(3): 65-74
- [6] 田静, 吴至友, J. Ugon. 一类特殊多项式整数规划问题的最优化算法[J]. 运筹学学报, 2011,15(4): 23-35
- [7] 阳红英, 杨志霞. 支持向量顺序回归机的统计学习基础[J]. 运筹学学报, 2011,15(3): 70-80
- [8] 唐万梅, 戎卫东. 无条件C的广义 $\alpha$ - $\eta$ -单调性的判别标准[J]. 运筹学学报, 2011,15(2): 11-18
- [9] 简金宝, 韦小鹏, 曾汉君, 潘华琴. 一般约束优化基于识别函数的模松弛算法[J]. 运筹学学报, 2011,15(2): 28-44