

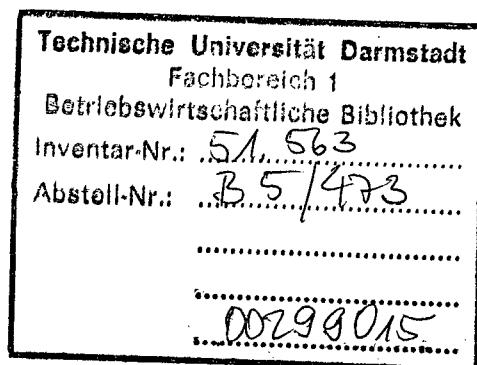
Mehrdad Tamiz (Ed.)

Multi-Objective Programming and Goal Programming

Theories and Applications



Springer



Contents

1. Introduction 1
Mehrdad Tamiz

Part 1: Multi-Objective Programming and Multi-Criteria Decision Making

2. Dynamic Choices in Economics: A Compromise Approach 11
Enrique Ballesteros, Carlos Romero
3. Application of Multicriteria Analysis to Ranking and Evaluation of Water Development Projects (The Case of Jordan) 25
B. Al-Kloub, T. T. Al-Shemmeri, A. D. Pearman, J. P. Brans, B. Mareschal
4. Multi-Criteria Efficiency Profiling 41
Christopher Tofallis
5. Nimbus - Interactive Method for Nondifferentiable Multiobjective Optimization Problems 50
Kaisa Miettinen, Marko M. Mäkelä
6. A Graphic Search Based on Active Sets for Nonlinear Convex Multiple Objective Programming with Linear Constraints 58
Rafael Caballero Fernández, Lourdes Rey Borrego, Francisco Ruiz de la Rúa
7. A Sequential Network-Based Approach for the Multiobjective Network Flow Problem with Preemptive Priorities 74
Herminia I. Calvete, Pedro M. Mateo
8. MOLP Formulation Assistance Using LP Infeasibility Analysis 87
John W. Chinneck, Wojtek Michalowski
9. Optimizing the Yield of an Extrusion Process in the Aluminum Industry 107
K. Masri, A. Warburton
10. Projective and Symbolic Degeneracy-Reducing Techniques for Multiple Objective Linear Programming 116
Jean-Michel Thizy
11. Interactive Multiple Criteria Optimization for Capital Budgeting in a Canadian Telecommunications Company 128
Jean-Michel Thizy, Savvas Pissarides, Surendra Rawat, Daniel E. Lane

12. The Ekeland's Principle and the Pareto ϵ -efficiency 148
G. Isac
13. Generation of Pareto Solutions By Entropy-Based Methods 164
A. M. Sultan, A. B. Templeman

Part 2: Goal Programming

14. An Overview of Current Solution Methods and Modelling Practices in Goal Programming 198
M. Tamiz, D. F. Jones
15. Goal Programming in Networks 212
Saul I. Gass
16. Solution of Nonlinear Field Problems by Goal Programming 235
Kevin Y. K. Ng
17. Incorporating the Decision-Maker's Preferences in the Goal Programming Model with Fuzzy Goal Values: A new Formulation .. 257
Jean-Marc Martel, Belaid Aouni
18. A Formulation of a Fuzzy Linear Goal Programming Problem with Fuzzy Constraints and Fuzzy Target Values 270
Arenas Parra M. Mar, Rodriguez Uria M. Victoria
19. A Two Staged Goal Programming Model for Portfolio Selection 286
M. Tamiz, R. Hasham, D. F. Jones, B. Hesni, E. K. Fargher
20. Application of MOP and GP to Wildlife Management (Deer). A Case in the Mediterranean Ecosystem 300
Julio Berbel, Ricardo Zamora
21. Flight Trajectory Optimization by Goal Programming with Fuzzy Objectives 309
Shinji Suzuki
22. An Application of Goal Geometric Programming to Equipment Replacement Under Fuzziness 331
Valentin Vitanov, Nikolai Mincoff, Tanya Vladimirova
23. An Exploration of Linear and Goal Programming Models in the Downstream Oil Industry 346
M. Tamiz, S. J. Mardle, D. F. Jones