

Contents

Part I Multiobjective Programming and Goal-Programming

A Constraint Method in Nonlinear Multi-Objective Optimization	3
Gabriele Eichfelder	
The Attainment of the Solution of the Dual Program in Vertices for Vectorial Linear Programs	13
Frank Heyde, Andreas Löhne, and Christiane Tammer	
Optimality of the Methods for Approximating the Feasible Criterion Set in the Convex Case	25
Roman Efremov and Georgy Kamenev	
Introducing Nonpolyhedral Cones to Multiobjective Programming	35
Alexander Engau and Margaret M. Wiecek	
A GP Formulation for Aggregating Preferences with Interval Assessments	47
Esther Dopazo and Mauricio Ruiz-Tagle	

Part II Multiobjective Combinatorial Optimization

Bicriterion Shortest Paths in Stochastic Time-Dependent Networks	57
Lars Relund Nielsen, Daniele Pretolani, and Kim Allan Andersen	
Clusters of Non-dominated Solutions in Multiobjective Combinatorial Optimization: An Experimental Analysis	69
Luís Paquete and Thomas Stützle	
Computational Results for Four Exact Methods to Solve the Three-Objective Assignment Problem	79
Anthony Przybylski, Xavier Gandibleux, and Matthias Ehrgott	

Constraint Optimization Techniques for Exact Multi-Objective Optimization	89
Emma Rollon and Javier Larrosa	
Outer Branching: How to Optimize under Partial Orders?	99
Ulrich Junker	
Part III Multiobjective Metheuristics	
On Utilizing Infeasibility in Multiobjective Evolutionary Algorithms	113
Thomas Hanne	
The Effect of Initial Population Sampling on the Convergence of Multi-Objective Genetic Algorithms	123
Silvia Poles, Yan Fu, and Enrico Rigoni	
Pattern Mining for Historical Data Analysis by Using MOEA	135
Hiroyuki Morita and Takanobu Nakahara	
Multiple-Objective Genetic Algorithm Using the Multiple Criteria Decision Making Method TOPSIS	145
Máximo Méndez, Blas Galván, Daniel Salazar, and David Greiner	
Part IV Multiobjective Games and Uncertainty	
Multi-Criteria Simple Games	157
Luisa Monroy and Francisco R. Fernández	
Multiobjective Cooperative Games with Restrictions on Coalitions	167
Tetsuzo Tanino	
An Experimental Investigation of the Optimal Selection Problem with Two Decision Makers	175
Fouad Ben Abdelaziz and Saoussen Krichen	
Solving a Fuzzy Multiobjective Linear Programming Problem Through the Value and the Ambiguity of Fuzzy Numbers	187
Mariano Jiménez, Mar Arenas, Amelia Bilbao, and M ^a Victoria Rodríguez	
A Robust-Solution-Based Methodology to Solve Multiple-Objective Problems with Uncertainty	197
Daniel Salazar, Xavier Gandibleux, Julien Jorge, and Marc Sevaux	
Part V Interactive Methods and Applications	
On the Use of Preferential Weights in Interactive Reference Point Based Methods	211
Kaisa Miettinen, Petri Eskelinen, Mariano Luque, and Francisco Ruiz	

Interactive Multiobjective Optimization of Superstructure SMB Processes	221
Jussi Hakanen, Yoshiaki Kawajiri, Lorenz T. Biegler, and Kaisa Miettinen	
Scheduling of Water Distribution Systems using a Multiobjective Approach	231
Amir Nafi, Caty Werey, and Patrick Llerena	
On Conditional Value-at-Risk Based Goal Programming Portfolio Selection Procedure	243
Bogumil Kaminski, Marcin Czapryna, and Tomasz Szapiro	
Optimal Bed Allocation in Hospitals	253
Xiaodong Li, Patrick Beullens, Dylan Jones, and Mehrdad Tamiz	
Multiobjective (Combinatorial) Optimisation – Some Thoughts on Applications	267
Matthias Ehrgott	
Multi-scenario Multi-objective Optimization with Applications in Engineering Design	283
Margaret M. Wiecek, Vincent Y. Blouin, Georges M. Fadel, Alexander Engau, Brian J. Hunt, and Vijay Singh	

Multiobjective Programming and Goal Programming

Theoretical Results and Practical Applications

Barichard, V.; Gandibleux, X.; T'Kindt, V. (Eds.)

2009, XV, 298 p. 98 illus., Softcover

ISBN: 978-3-540-85645-0