

Table of Contents

Nonlinear Programming

Optimal Design of Discrete Engineering Structures Resisting Effects of Material Degradation	1
W. Achziger, M.P. Bendsøe	
A Bundle Trust Region Algorithm for Bilinear Bilevel Programming	7
S. Dempe, J.F. Bard	
Convergence Analysis for General Penalty Path-Following Newton Iterations	13
C. Grossmann	
A Regularization Approach for Variational Inequalities with Pseudo-Monotone Operators	19
V. Kalashnikov, A.A. Khan	
A Curvilinear Pseudo-Newton Algorithm for Nonlinear Programming	23
M.T.T. Monteiro, E.M.G.P. Fernandes	
Pathfollowing and Jumps in Bilevel Programming	30
S. Vogel, S. Dempe	
Multiobjective Duality for Convex-Linear Problems	36
G. Wanka, R.-I. Bot	
Maximum Representation of Some Convex Marginal Functions Without Constant Rank Regularity	41
U. Würker	

Combinatorial and Discrete Optimization

Polyatomic Discrete Tomography - Polyhedral Aspects	47
R. Brandenburg	
Orienting Dart-free Clique-Helly Chordal Graphs	52
G. Confessore, P. Dell'Olmo, S. Giordani	
On Some Approximation Algorithms for Dense Vertex Cover Problem	58
A.V. Eremeev	
A Probabilistic Analysis of an Approximation Algorithm for the Minimum Weight Spanning Tree Problem with Bounded from Below Diameter	63
E.Kh. Gimadi, A.I. Serdyukov	
Approximating Stable Sets Using the ϑ-function and Cutting Planes	69
G. Gruber, F. Rendl	
Optimizing Generalized Profiles for Enhanced Discrimination of Biomolecular Sequences	75
N. Moeri, T.M. Liebling, P. Bucher	
Polyhedral Aspects of the Consecutive Ones Problem	81
M. Oswald, G. Reinelt	
Solving One-Dimensional Cutting Stock Problems Exactly with a Cutting Plane Algorithm	86
G. Scheithauer	

Graphs and Complexity

Graph Drawing: the Aesthetics-Complexity Trade-Off	
-Invited Lecture-	92
G. Di Battista	

The Smallest Hard-to-Color Graphs for Sequential Coloring Algorithms	95
M. Kubale, K. Manuszewski	

Control Theory

Optimal Control in Economical and Technical Problems	
-Invited Lecture-	102
W.H. Schmidt	
Über Probleme der optimalen Steuerung mit einer Quasivariationsungleichung	111
H. Dietrich	
Robust Control of Continuous Fermentation Processes Described by Monod-type Model with Delay	117
R. Tsoneva, T.Patarinska	

Stochastic Models and Optimization

Asset-liability Optimization for Pension Fund Management	
-Invited Lecture-	124
G.Ch. Pflug, A. Świętanowski	
Multistage Stochastic Programming; Stability, Approximation and Markov Dependence	136
V. Kaňková	
Parallel Iterative Proportional Fitting	142
C.-H. Meyer, H. Knublauch	
Error Bounds and Sensitivity Analysis of Semi-Markov Processes	148
K. Sladký	

Econometrics and Statistics

Partition of the Coefficient of Determination in Multiple Regression	154
---	------------

N. Fickel

Minimax Estimation Under Random Sample Size	160
--	------------

M. Wilczyński

Using the Sieve Bootstrap Method in Time Series Analysis	165
---	------------

A. Zagdański

Mathematical Economics and Economic Theory

Support and Implementation of the Kalai-Smorodinsky Bargaining Solution	170
--	------------

C.-J. Haake

Game and Decision Theory

When Does Learning Lead to Nash Equilibrium?	
-Invited Lecture-	176

T. Börgers

Cooperative and Noncooperative R&D Activities in an Oligopolistic Market	203
---	------------

D. Campisi, P. Mancuso

The Timing of Informational Activities in Decision and Control Problems	209
--	------------

A. Chwolka

On Properties of Optimal Solutions of Allocation Problems with Polymatroid Feasible Region	215
---	------------

E. Girlich, M. Kovalev, A. Zaporozhets

Cooperative Procedures for Multiple-Issue Negotiations	220
M.G. Raith	

Experimental Economics

Game-Playing Experiments	
-Invited Lecture-	226
W. Güth	
Signaling and Identifying the Willingness to Cooperate: Some Experimental Results	243
J. Brosig	

Artificial Intelligence, Neural Networks, and Fuzzy Systems

Data Mining mit Neuro-Fuzzy-Systemen	
-Invited Lecture-	249
R. Kruse, C. Borgelt, D. Nauck	
Behavior of the Ant Colony Algorithm for the Set Covering Problem	255
D. Alexandrov, Y. Kochetov	
Comparison of Exchange Rate Forecasts by Neural Networks and by Econometric Methods	261
L. Beinsen, M. Kührer	
Bewertung von partiellen Wahrscheinlichkeitsinformationen bei entropie-optimaler Wissensverarbeitung	267
W. Rödder, E. Reucher	
Reasoning with Probabilities and Maximum Entropy: The System PIT and its Application in LEXMED	274
M. Schramm, W. Ertel	

Information and Decision Support Systems

AGA-Konzept und AGAPE-Toolbox und deren Verwendung im Rahmen der prototypischen Entwicklung der DSS-Komponente eines Leitstandes zur Feinsteuerung	281
U. Derigs, M. Heckmann, R. Ploch, O. Ziemek, M. Zils	
Simulation im Konfliktmanagement in großen Transportnetzwerken	287
J. Goecke, C. Biederbick	
Computerunterstützte Stundenplanerstellung für die Offizierschule des Heeres	293
W. Junginger	
Computergestützte Anfragebewertung im industriellen Anlagengeschäft	298
F. Kulmann, W. Rödder	
Datenqualitätsanalyse mit Methoden des Data Mining	304
U. Windheuser	

Finance, Banking, and Insurance

Aggregation von drei Dimensionen des Downside-Risikos durch einen modifizierten Sen-Index	311
F. Eggers, A. Pfingsten, S. Riesio	
Die Ermittlung von Value-at-Risk-Handelslimiten zur Kontrolle und Steuerung von Marktrisiken bei kontinuierlicher Überprüfung	317
H. Locarek-Junge, M. Straßberger, H. Vollbehr	
CAPM und systematisches bzw. unsystematisches Risiko unter Kurssprüngen	323
B. Nietert	
Approximation der risikoneutralen Verteilung - Methodenvergleich und Implementierung	329
L. Schiefner	

Finite Element Modeling of Exotic Options	336
--	------------

J. Topper

Scheduling and Project Planning

Scheduling Deteriorating Jobs with Ready Times	342
---	------------

A. Bachman, A. Janiak

Scheduling Tasks and Vehicles in FMSs - Network Flow Model	349
---	------------

J. Błażewicz, G. Pawlak, M.-L. Espinouse, G. Finke

Total Late Work Criteria for Shop Scheduling Problems	354
--	------------

J. Błażewicz, E. Pesch, M. Sterna, F. Werner

A Parallel B & B Algorithm to Optimize a Combination of Job Tardiness and Machine Utilization in Flexible Flow Lines	360
---	------------

K. Brockmann, W. Dangelmaier

Lower and Upper Bounds for the Resource Investment Problem	366
---	------------

A. Drexl, A. Kimms

Scheduling in Robotic Cells	372
------------------------------------	------------

G. Finke, N. Brauner

Scheduling with Deadlines and Nested Processing Intervals for a Single Machine	378
---	------------

V.S. Gordon, F. Werner, O.A. Yanushkevich

On the Solution of 2-Machine Flow Shop Problems With a Common Due Date	383
---	------------

J.N.D. Gupta, V. Lauff, F. Werner

Scheduling Jobs with Start Time and Resource Dependent Processing Times	389
--	------------

D. Iwanowski, A. Janiak, A. Rogala

Fully Polynomial Approximation Schemes for Decomposable Partition Problems 397

M.Y. Kovalyov, W. Kubiak

Minimizing Earliness-Tardiness Costs of Resource-Constrained Projects 402

C. Schwindt

Sequencing under Precedence Constraints: Construction of All Optimal Permutations 408

Y.M. Shafransky, A.V. Tuzikov

Scheduling via Mixed Graph Coloring 414

Y.N. Sotskov

Project Scheduling with Discounted Cash Flows and General Temporal Constraints 419

J. Zimmermann

Transport and Traffic

Decentralized Rail Capacity Allocation: a Model and Applications 425

A. Bassanini, A. Nastasi

Planung von Flugzeugumläufen unter Nebenbedingungen 431

C. Biederbick

Optimal Routing of Traffic Flows with Length Restrictions in Networks with Congestion 437

O. Jahn, R.H. Möhring, A.S. Schulz

Analyse kombinatorischer Auktionen für ein Multi-Agentensystem zur Lösung des Groupage-Problems kooperierender Speditionen 443

G. Pankratz

Zur Modellierung und Simulation von Eisenbahnverkehr	449
A. Stebens, M. Schreckenberg	

Inventory and Logistics

Ansätze zur Lösung von Stauraumproblemen	455
M. Eley	

Kostenoptimierung von Kommissioniersystemen mit Hilfe Genetischer Algorithmen	461
L. Grünz, K. Heinz	

Facility Location Decisions in Supply Chain Management	467
J. Kalcsics, T. Melo, S. Nickel, V. Schmid-Lutz	

Production

A New Model for Planning Complex Assembly Lines in Support of Efficient Mass Customization	473
S. Bock	

Comparison of Dispatching Rules for Reducing the Mean and Variability of Cycle Times in Semiconductor Manufacturing	479
M. Mittler, A.K. Schoemig	

On Transfer Blocking and Minimal Blocking in Serial Manufacturing Systems and the Impact of Variability	486
A.K. Schoemig	

Process Flow Scheduling als ressourcenbeschränktes Projektplanungsproblem	491
N. Trautmann	

Marketing

Die Auswirkungen des Neuheitsgrades auf die Qualitätsbeurteilung 497

G. Baier

Die optimale Gestaltung eines Händlernetzes im Automobilbereich 503

K. Haase, K. Lange, M. Missonig

The Impact of Exchange Rate Changes on International Pricing 509

H. Löbler

Markenwertmessung auf Basis von Paneldaten 517

J. Maretzki

Energy, Environment, and Health

Industrielles Stoffstrommanagement

-Invited Lecture- 524

T. Spengler

Entwicklung und Anwendung eines optimierenden Energie- und Stoffflußmodells für die langfristige Kapazitätsausbauplanung bei Energieversorgungsunternehmen 536

M. Göbelt, W. Fichtner, M. Wietschel, O. Rentz

Entwicklung eines Planungsmodells zur Bestimmung umweltorientierter Investitionsprogramme 542

R. Jochum, F. Schultmann, O. Rentz

Planning and Organisation in the Hospital 548

S. Nickel, D. Tenfelde

Implementation of IctNeo: a Decision Support System for Jaundice Management**554**

S. Ríos-Insua, M. Gómez, C. Bielza, J.A. Fdez del Pozo

Modelling Sustainable Use of Natural Resources**560**

J. Scheffran

List of Authors and Co-Authors**566**