Boris Goldengorin
Editor

Optimization and Its Applications in Control and Data Sciences

In Honor of Boris T. Polyak's 80th Birthday



Contents

A New Adaptive Conjugate Gradient Algorithm for Large-Scale Unconstrained Optimization	1
On Methods of Terminal Control with Boundary-Value Problems: Lagrange Approach Anatoly Antipin and Elena Khoroshilova	17
Optimization of Portfolio Compositions for Small and Medium Price-Taking Traders Alexander S. Belenky and Lyudmila G. Egorova	51
Indirect Maximum Likelihood Estimation	119
Lagrangian Duality in Complex Pose Graph Optimization	139
State-Feedback Control of Positive Switching Systems with Markovian Jumps Patrizio Colaneri, Paolo Bolzern, José C. Geromel, and Grace S. Deaecto	185
Matrix-Free Convex Optimization Modeling	221
Invariance Conditions for Nonlinear Dynamical Systems	265
Modeling of Stationary Periodic Time Series by ARMA Representations Anders Lindquist and Giorgio Picci	281
A New Two-Step Proximal Algorithm of Solving the Problem of Equilibrium Programming	315

xiv Contents

Nonparametric Ellipsoidal Approximation of Compact Sets of Random Points	327
Sergey I. Lyashko, Dmitry A. Klyushin, Vladimir V. Semenov, Maryna V. Prysiazhna, and Maksym P. Shlykov	
Extremal Results for Algebraic Linear Interval Systems	341
Applying the Gradient Projection Method to a Model of Proportional Membership for Fuzzy Cluster Analysis Susana Nascimento	353
Algorithmic Principle of Least Revenue for Finding Market Equilibria Yurii Nesterov and Vladimir Shikhman	381
The Legendre Transformation in Modern Optimization	437