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Optimal Inscribing of Two Balls; 3 Continuity and Differentiability of Auxiliary Functions; 4 Numerical Examples; References

Mathematical Programs with Equilibrium Constraints: A Brief Survey of Methods and Optimality Conditions¹ Variational Inequality Problem; 1.1 Existence and Convexity of the Solution Set of VIP; 1.2 Relationship to Other Problems; 1.3 Traffic Equilibrium; 2 Mathematical Programs with Equilibrium Constraints; 3 Methods for Solving the MPEC; 3.1 Penalty Techniques; 3.2 Nondifferential Optimization; 3.3 Smoothing Methods; 4 Optimality Conditions for MPEC; References; Linear Programming with Interval Data: A Two-Level Programming Approach; 1 Introduction; 2 Problem Formulation

3 One-Level Transformation 3.1 Lower Bound; 3.2 Upper Bound; 3.3 Special Case; 4 An Example; 5 Conclusion; References; Quantifying Retardation in Simulation Based Optimization; 1 Introduction; 2 One-Shot Optimization and Problem Characteristics; 3 The Newton Scenario for Separable Adjoints; 4 Jacobi Method on an Elliptic Problem; 5 Multigrid Method; 6 Summary and Conclusion; References; Evolutionary Algorithm for Generalized Nash Equilibrium Problems; 1 Introduction; 2 Generalized Nash Equilibrium Problem; 3 Equivalent Reformulations; 4 Evolutionary Algorithm; 5 Numerical Experiments

6 ConclusionReferences; Scalar and Vector Optimization with Composed Objective Functions and Constraints; 1 Introduction; 2 Notations and Preliminaries; 3 Some Dual Optimization Problems; 3.1 The Scalar Optimization Problem (PS); 3.2 The Scalar Optimization Problem (PS); 3.3 The Vector Optimization Problem (PV); 3.4 The Vector Optimization Problem (PVM); References; A PTAS for Weak Minimum Routing Cost Connected Dominating Set of Unit Disk Graph; 1 Introduction; 2 Problem Transformation; 3 A Constant Approximation; 4 A PTAS; References

Power Control in Wireless Ad Hoc Networks: Stability and Convergence Under Uncertainties

Sommario/riassunto

Optimization, simulation and control are very powerful tools in engineering and mathematics, and play an increasingly important role. Because of their various real-world applications in industries such as finance, economics, and telecommunications, research in these fields is accelerating at a rapid pace, and there have been major algorithmic and theoretical developments in these fields in the last decade. This volume brings together the latest developments in these areas of research and presents applications of these results to a wide range of real-world problems. The book is composed of invited contributions by experts from around the world who work to develop and apply new optimization, simulation, and control techniques either at a theoretical level or in practice. Some key topics presented include: equilibrium problems, multi-objective optimization, variational inequalities, stochastic processes, numerical analysis, optimization in signal processing, and various other interdisciplinary applications. This volume can serve as a useful resource for researchers, practitioners, and advanced graduate students of mathematics and engineering working in research areas where results in optimization, simulation and control can be applied.
