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| Altri autori (Persone) | JermannChristophe <1975-><br>NeumaierA<br>SamDjamila |
| Disciplina | 005.1/16 |
| Soggetti | Numerical analysis<br>Computer science<br>Machine theory<br>Computer science - Mathematics<br>Numerical Analysis<br>Computer Science Logic and Foundations of Programming<br>Formal Languages and Automata Theory<br>Symbolic and Algebraic Manipulation |
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| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | Constraint Satisfaction -- Efficient Pruning Technique Based on Linear Relaxations -- Inter-block Backtracking: Exploiting the Structure in Continuous CSPs -- Accelerating Consistency Techniques and Prony's Method for Reliable Parameter Estimation of Exponential Sums -- Global Optimization -- Convex Programming Methods for Global Optimization -- A Method for Global Optimization of Large Systems of Quadratic Constraints -- A Comparison of Methods for the Computation of Affine Lower Bound Functions for Polynomials -- Using a Cooperative Solving Approach to Global Optimization Problems -- Global Optimization of Convex Multiplicative Programs by Duality |

Theory -- Applications -- High-Fidelity Models in Global Optimization -- Incremental Construction of the Robot's Environmental Map Using Interval Analysis -- Nonlinear Predictive Control Using Constraints Satisfaction -- Gas Turbine Model-Based Robust Fault Detection Using a Forward – Backward Test -- Benchmarking on Approaches to Interval Observation Applied to Robust Fault Detection.

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| Sommario/riassunto | Theformulationofmanypracticalproblemsnaturallyinvolvesconstraintsonthe variables entering the mathematical model of a real-life situation to be analyzed. It is of great interest to ?nd the possible scenarios satisfying all constraints, and, iftherearemanyofthem,eitherto?ndthebestsolution,ortoobtainacompact, explicit representation of the whole feasible set. The 2nd Workshop on Global Constrained Optimization and Constraint S- isfaction, COCOS 2003, which took place during November 18–21, 2003 in L- sanne, Switzerland, was dedicated to theoretical, algorithmic, and application oriented advances in answering these questions. Here global optimization refers to ?nding the absolutely best feasible point, while constraint satisfaction refers to?ndingallpossiblefeasiblepoints.AsinCOCOS2002,the?rstsuchworkshop (see the proceeedings [1]), the emphasis was on complete solving techniques for problems involving continuous variables that provide all solutions with full rigor, and on applications which, however, were allowed to have relaxed standards of rigor. The participants used the opportunity to meet experts from global optimi-tion, mathematical programming, constraint programming, and applications, and to present and discuss ongoing work and new directions in the ?eld. Four invited lectures and 20 contributed talks were presented at the workshop. The invited lectures were given by John Hooker (Logic-Based Methods for Global Optimization), Jean-Pierre Merlet (Usual and Unusual Applications of Interval Analysis), Hermann Schichl (The COCONUT Optimization Environment), and Jorge Mor´ e (Global Optimization Computational Servers). This volume contains the text of Hooker's invited lecture and of 12 c- tributed talks. Copies of the slides for most presentations canbe found at [2]. Constraintsatisfactionproblems.Threepapersfocusonalgorithmicaspects of constraint satisfaction problems. |