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| Nota di contenuto | Solving LP Relaxations of Large-Scale Precedence Constrained Problems -- Computing Minimum Multiway Cuts in Hypergraphs from Hypertree Packings -- Eigenvalue Techniques for Convex Objective, Nonconvex Optimization Problems -- Restricted b-Matchings in Degree-Bounded Graphs -- Zero-Coefficient Cuts -- Prize-Collecting Steiner Network Problems -- On Lifting Integer Variables in Minimal Inequalities -- |

Efficient Edge Splitting-Off Algorithms Maintaining All-Pairs Edge-Connectivities -- On Generalizations of Network Design Problems with Degree Bounds -- A Polyhedral Study of the Mixed Integer Cut -- Symmetry Matters for the Sizes of Extended Formulations -- A 3-Approximation for Facility Location with Uniform Capacities -- Secretary Problems via Linear Programming -- Branched Polyhedral Systems -- Hitting Diamonds and Growing Cacti -- Approximability of 3- and 4-Hop Bounded Disjoint Paths Problems -- A Polynomial-Time Algorithm for Optimizing over N-Fold 4-Block Decomposable Integer Programs -- Universal Sequencing on a Single Machine -- Fault-Tolerant Facility Location: A Randomized Dependent LP-Rounding Algorithm -- Integer Quadratic Quasi-polyhedra -- An Integer Programming and Decomposition Approach to General Chance-Constrained Mathematical Programs -- An Effective Branch-and-Bound Algorithm for Convex Quadratic Integer Programming -- Extending SDP Integrality Gaps to Sherali-Adams with Applications to Quadratic Programming and MaxCutGain -- The Price of Collusion in Series-Parallel Networks -- The Chvátal-Gomory Closure of an Ellipsoid Is a Polyhedron -- A Pumping Algorithm for Ergodic Stochastic Mean Payoff Games with Perfect Information -- On Column-Restricted and Priority Covering Integer Programs -- On k-Column Sparse Packing Programs -- Hypergraphic LP Relaxations for Steiner Trees -- Efficient Deterministic Algorithms for Finding a Minimum Cycle Basis in Undirected Graphs -- Efficient Algorithms for Average Completion Time Scheduling -- Experiments with Two Row Tableau Cuts -- An OPT?+?1 Algorithm for the Cutting Stock Problem with Constant Number of Object Lengths -- On the Rank of Cutting-Plane Proof Systems.

Sommario/riassunto

The idea of a refereed conference for the mathematical programming community was proposed by Ravi Kannan and William Pulleyblank to the Mathematical Programming Society (MPS) in the late 1980s. Thus IPCO was born, and MPS has sponsored the conference as one of its main events since IPCO I at the University of Waterloo in 1990. The conference has become the main forum for recent results in Integer Programming and Combinatorial Optimization in the non-Symposium years. This volume compiles the papers presented at IPCO XIV held June 9-11, 2010, at EPFL in Lausanne. The scope of papers considered for IPCO XIV is likely broader than at IPCO I. This is sometimes due to the wealth of new questions and directions brought from related areas. It can also be due to the successful application of “math programming” techniques to models not traditionally considered. In any case, the interest in IPCO is greater than ever and this is reflected in both the number (135) and quality of the submissions. The Programme Committee with 13 members was also IPCO’s largest. We thank the members of the committee, as well as their sub-reviewers, for their exceptional (and time-consuming) work and especially during the online committee meeting held over January. The process resulted in the selection of 34 excellent research papers which were presented in non-parallel sessions over three days in Lausanne. Unavoidably, this has meant that many excellent submissions were not able to be included.
