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Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Gregory Gutin and Graph Optimization Problems (Noga Alon) -- On graphs whose maximal cliques and stable sets intersect (Diogo V. Andrade and Endre Boros and Vladimir Gurvich) -- Computing the Line Index of Balance Using Integer Programming Optimisation (Samin Aref, Andrew J. Mason and Mark C. Wilson) -- Branching in Digraphs with Many and Few leaves: Structural and Algorithmic Results (Jørgen Bang-Jensen and Gregory Gutin) -- Dominance Certificates for Combinatorial Optimization Problems (Daniel Berend and Steven S. Skiena and Yochai Twitto) -- Conditional Markov Chain Search for the Simple Plant Location Problem improves upper bounds on twelve Körkel-Ghosh instances (Daniel Karapetyan and Boris Goldengorin) -- An algorithmic answer to the Ore-type version of Dirac's question on disjoint cycles (H.A. Kierstead, A.V. Kostochka, T. Molla, D. Yager) -- Optimal Patrol on a Graph against Random and Strategic Attackers (Richard G. McGrath) -- Network Design Problem with Cut Constraints (Firdovsi

Sharifov and Hakan Kutucu) -- Process Sequencing Problem in Distributed Manufacturing Process Planning (Dusan Sormaz and Arkopaul Sarkar) -- Sharp Nordhaus-Gaddum-type lower bounds for proper connection numbers of graphs (Yuefang Sun).

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Sommario/riassunto

This book presents open optimization problems in graph theory and networks. Each chapter reflects developments in theory and applications based on Gregory Gutin's fundamental contributions to advanced methods and techniques in combinatorial optimization. Researchers, students, and engineers in computer science, big data, applied mathematics, operations research, algorithm design, artificial intelligence, software engineering, data analysis, industrial and systems engineering will benefit from the state-of-the-art results presented in modern graph theory and its applications to the design of efficient algorithms for optimization problems. Topics covered in this work include: · Algorithmic aspects of problems with disjoint cycles in graphs · Graphs where maximal cliques and stable sets intersect · The maximum independent set problem with special classes · A general technique for heuristic algorithms for optimization problems · The network design problem with cut constraints · Algorithms for computing the frustration index of a signed graph · A heuristic approach for studying the patrol problem on a graph · Minimum possible sum and product of the proper connection number · Structural and algorithmic results on branchings in digraphs · Improved upper bounds for Korkel--Ghosh benchmark SPLP instances.

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