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Soggetti	Mathematics - Data processing Computer science - Mathematics Discrete mathematics Artificial intelligence - Data processing Algorithms Computer arithmetic and logic units Computational Mathematics and Numerical Analysis Discrete Mathematics in Computer Science Data Science Arithmetic and Logic Structures
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Logic and Random Graphs -- Unavoidability and universality of digraphs -- Parameterized algorithms for geometric graphs via decomposition theorems -- Subexponential algorithms for variants of homomorphism problem in string graphs -- The 4-Steiner Root Problem -- Hamiltonicity below Dirac's condition -- Maximum Independent Sets in Subcubic Graphs: New Results -- Cyclewidth and the Grid Theorem for Perfect Matching Width of Bipartite Graphs -- Local approximation of the Maximum Cut in regular graphs -- Fixed-parameter tractability of counting small minimum (S,T)-cuts -- Fast Breadth-First Search in Still Less Space -- A Turing Kernelization

Dichotomy for Structural Parameterizations of F-Minor-Free Deletion -- Flip distances between graph orientations -- Graph functionality -- On Happy Colorings, Cuts, and Structural Parameterizations -- Shortest Reconfiguration of Matchings -- Travelling on Graphs with Small Highway Dimension -- The Power of Cut-Based Parameters for Computing Edge Disjoint Paths -- Geometric Representations of Dichotomous Ordinal Data -- Linear MIM-width of Trees -- Approximating Minimum Dominating Set on String graphs -- Classified Rank-Maximal Matchings and Popular Matchings -- Algorithms and Hardness -- Maximum Matchings and Minimum Blocking Sets in Theta-6 Graphs -- A polynomial-time algorithm for the independent set problem in $\{P_{10}, C_4, C_6\}$ -free graphs -- Independent Set Reconfiguration Parameterized by Modular-Width -- Counting independent sets in graphs with bounded bipartite pathwidth -- Intersection Graphs of Non-Crossing Paths -- Reconfiguring Hamiltonian Cycles in L-Shaped Grid Graphs -- Color Refinement, Homomorphisms, and Hypergraphs -- 3-colorable planar graphs have an intersection segment representation using 3 slopes -- The Exponential-Time Complexity of Counting (Quantum) Graph Homomorphisms -- Minimal separators in graph classes defined by small forbidden induced subgraphs.

Sommario/riassunto

This book constitutes the revised papers of the 45th International Workshop on Graph-Theoretic Concepts in Computer Science, WG 2019, held in Vall de Núria, Spain, in June 2019. The 29 full papers presented in this volume were carefully reviewed and selected from 87 submissions. They cover a wide range of areas, aiming at connecting theory and applications by demonstrating how graph-theoretic concepts can be applied in various areas of computer science. Another focus is on presenting recent results and on identifying and exploring promising directions of future research.
