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Titolo	Structures of domination in graphs // Teresa W. Haynes, Stephen T. Hedetniemi, Michael A. Henning, editors
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-58892-0
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (VIII, 536 p. 169 illus., 61 illus. in color.)
Collana	Developments in mathematics ; ; Volume 66
Disciplina	511.5
Soggetti	Domination (Graph theory) Teoria de grafs Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	1. Glossary of Common Terms (Haynes) -- Part 1. Related Parameters: 2. Broadcast Domination in Graphs (MacGillivray) -- 3. Alliances and Related Domination Parameters (Haynes) -- 4. Fractional Domatic, Idomatic and Total Domatic Numbers of a Graph (Goddard) -- 5. Dominator and Total Dominator Colorings in Graphs (Henning) -- 6. Irredundance (Mynhardt) -- 7. The Private Neighbor Concept (McRae) -- 8. An Introduction to Game Domination in Graphs (Henning) -- 9. Domination and Spectral Graph Theory (Hoppen) -- 10. Varieties of Roman Domination (Chellali) -- Part 2. Domination in Selected Graph Families: 11. Domination and Total Domination in Hypergraphs (Yeo) -- 12. Domination in Chessboards (Hedetniemi) -- 13. Domination in Digraphs (Haynes) -- Part 3. Algorithms and Complexity: 14. Algorithms and Complexity of Signed, Minus and Majority Domination (McRae) -- 15. Algorithms and Complexity of Power Domination in Graphs (Mohan) -- 16. Self-Stabilizing Domination Algorithms (Hedetniemi) -- 17. Algorithms and Complexity of Alliances in Graphs (Hedetniemi).
Sommario/riassunto	This volume comprises 17 contributions that present advanced topics in graph domination, featuring open problems, modern techniques, and recent results. The book is divided into 3 parts. The first part

focuses on several domination-related concepts: broadcast domination, alliances, domatic numbers, dominator colorings, irredundance in graphs, private neighbor concepts, game domination, varieties of Roman domination and spectral graph theory. The second part covers domination in hypergraphs, chessboards, and digraphs and tournaments. The third part focuses on the development of algorithms and complexity of signed, minus and majority domination, power domination, and alliances in graphs. The third part also includes a chapter on self-stabilizing algorithms. Of extra benefit to the reader, the first chapter includes a glossary of commonly used terms. The book is intended to provide a reference for established researchers in the fields of domination and graph theory and graduate students who wish to gain knowledge of the topics covered as well as an overview of the major accomplishments and proof techniques used in the field.

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