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Nota di contenuto	Introduction -- Set-Theoretical Shuffled Shepherd Optimization Algorithm for Optimal Design of Reinforced Concrete Cantilever Retaining Wall Structures -- Set-Theoretical Variants of the Teaching-Learning-Based Optimization Algorithm for Structural Optimization with Frequency Constraints -- Enhanced Versions of the Shuffled Shepherd Optimization Algorithm for Structural Optimization -- Set-Theoretical Metaheuristic Algorithms for Reliability-Based Design Optimization of Truss Structures -- Optimal Analysis in the Service of Frequency-Constrained Structural Optimization with Set-Theoretical Jaya Algorithm -- Discrete Structural Optimization with Set-Theoretical Jaya Algorithm -- Enhanced Forensic-Based Investigation Algorithm -- Improved Slime Mould Algorithm -- Improved Arithmetic Optimization Algorithm.
Sommario/riassunto	The main purpose of the present book is to develop a general framework for population-based metaheuristics based on some basic concepts of set theory. The idea of the framework is to divide the population of individuals into subpopulations of identical sizes. Therefore, in each iteration of the search process, different subpopulations explore the search space independently but simultaneously. The framework aims to provide a suitable balance

between exploration and exploitation during the search process. A few chapters containing algorithm-specific modifications of some state-of-the-art metaheuristics are also included to further enrich the book. The present book is addressed to those scientists, engineers, and students who wish to explore the potentials of newly developed metaheuristics. The proposed metaheuristics are not only applicable to structural optimization problems but can also be used for other engineering optimization applications. The book is likely to beof interest to a wide range of engineers and students who deal with engineering optimization problems.