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Nota di contenuto	Part I: Applying Particle Swarm Optimization to Portfolio Optimization -- 1. Utility: Theories and Models -- 2. Portfolio Optimization -- 3. Behavioral Portfolio Theory -- 4. A Comparative Study on PSO with Other Metaheuristic Methods -- 5. Mathematical Model of Particle Swarm Optimization: Numerical Optimization Problems -- 6. Particle Swarm Optimization: The Foundation -- 7. The PSO Family: Application to the Portfolio Optimization Problem -- 8. A Constrained Portfolio Selection Model Solved by Particle Swarm Optimization Under Different Risk Measures -- 9. Optimal Portfolio Selection with Particle Swarm Algorithm: An Application on BIST-30 -- 10. Cardinality-Constrained Higher-Order Moment Portfolios Using Particle Swarm Optimization -- Part II: Different Applications of PSO -- 11. Different Applications of

PSO -- 12. Particle Swarm Optimization in Global Path Planning for Swarm of Robots -- 13. Training Multi-layer Perceptron Using Hybridization of Chaotic Gravitational Search Algorithm and Particle Swarm Optimization -- 14. Solving Optimization Problem with Particle Swarm Optimization: Solving Hybrid Flow Shop Scheduling Problem with Particle Swarm Optimization Algorithm -- 15. Constriction Coefficient-Based Particle Swarm Optimization and Gravitational Search Algorithm for Image Segmentation -- 16. An Overview of the Performance of PSO Algorithm in Renewable Energy Systems -- 17. Application of PSO in Distribution Power Systems: Operation and Planning Optimization.

Sommario/riassunto	This book explains the theoretical structure of particle swarm optimization (PSO) and focuses on the application of PSO to portfolio optimization problems. The general goal of portfolio optimization is to find a solution that provides the highest expected return at each level of portfolio risk. According to H. Markowitz's portfolio selection theory, as new assets are added to an investment portfolio, the total risk of the portfolio's decreases depending on the correlations of asset returns, while the expected return on the portfolio represents the weighted average of the expected returns for each asset. The book explains PSO in detail and demonstrates how to implement Markowitz's portfolio optimization approach using PSO. In addition, it expands on the Markowitz model and seeks to improve the solution-finding process with the aid of various algorithms. In short, the book provides researchers, teachers, engineers, managers and practitioners with many tools they need to apply the PSO technique to portfolio optimization.