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Nota di contenuto	Intro -- POWER SYSTEMS APPLICATIONS OF GRAPH THEORY -- POWER SYSTEMS APPLICATIONS OF GRAPH THEORY -- LIBRARY OF CONGRESS CATALOGING-IN-PUBLICATION DATA -- CONTENTS -- PREFACE -- Chapter 1: Introduction -- REFERENCES -- Chapter 2: Basic Concepts of Graph -- 2.1. INTRODUCTION -- 2.2. BASIC CONCEPTS -- 2.3. BASIC STRUCTURAL PROPERTIES -- REFERENCES -- Chapter 3: Graph Theory -- 3.1. INTRODUCTION -- 3.2. LINEAR ALGEBRA RELATED TO GRAPH THEORY -- 3.3. CONNECTIVITY -- 3.4. TREES -- 3.4.1. Properties of Tree -- 3.4.2. Optimal Tree -- 3.5. COLORING -- 3.5.1. Edge Coloring -- 3.5.2. Vertex Coloring -- 3.6. THE SHORTEST PATH PROBLEM -- 3.6.1. Dijkstra's Algorithm -- 3.6.2. A* Search Algorithm -- 3.7. PLANAR GRAPHS -- 3.7.1. Planar Graph and Dual Graph -- 3.7.2. Euler's Formula -- 3.8. MATROID THEORY -- 3.8.1. Matroids -- 3.8.2. Matroid Theory and Extensions -- 3.8.3. Basic Constructions of Matroid -- 3.8.4. Weighted Matroid -- REFERENCES -- Chapter 4: Network Flow Programming -- 4.1. NETWORK -- 1. Capacity Constraints -- 2. Skew Symmetry -- 3. Flow Conservation -- 4.2. MAXIMUM FLOW PROBLEM -- 4.2.1. Max-Flow Min-Cut Theorem -- 4.2.2. Ford-Fulkerson Algorithm -- 4.2.3. Push-Relabel Algorithm -- 4.2.4. Linear Programming Applied to Max-Flow -- 4.3. Minimum Cost Flow Problem -- 4.3.1. Description of the Problem -- 4.3.2. Working with Residual Networks

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Sommario/riassunto

This book attempts to cover all applications of graph theory in the area of power systems. Consisting of two parts, it first introduces the basic concepts of graph theory and then describes the practical application of graph theory and network flow programming to all kinds of power systems problems.
