1. Record Nr. UNINA9910143083303321 Autore Nagurney Anna Titolo Fragile networks [[electronic resource]]: identifying vulnerabilities and synergies in an uncertain world / / Anna Nagurney, Qiang Qiang Hoboken, NJ,: Wiley, c2009 Pubbl/distr/stampa 1-282-23734-9 **ISBN** 9786612237348 0-470-50113-8 0-470-50112-X Descrizione fisica 1 online resource (340 p.) Altri autori (Persone) QiangQiang <1974-> 003/.72 Disciplina 004.65 Soggetti Network analysis (Planning) System analysis Electronic books. Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. FRAGILE NETWORKS: Identifying Vulnerabilities and Synergies in an Nota di contenuto Uncertain World; CONTENTS; List of Figures; List of Tables; PART I NETWORK FUNDAMENTALS, EFFICIENCY MEASUREMENT, AND VULNERABILITY ANALYSIS; 1 Introduction and Overview; 2 Fundamental Methodologies, Network Models, and Algorithms; 2.1 Review of Variational Inequality Theory and its Relationships to Optimization; 2.2 Decentralized Decision-Making and User-Optimization; 2.2.1 The Network Equilibrium (U-O) Model with Fixed Demands: 2.2.2 Network Equilibrium (U-O) Models with Elastic Demands 2.3 Centralized Decision-Making and System-Optimization 2.3.1 The System-Optimization (S-O) Models; 2.3.2 System-Optimality Conditions; 2.4 Algorithms; 2.4.1 Equilibration Algorithms; 2.4.2 The Projection Method; 2.4.3 The Modified Projection Method; 2.4.4 The Euler Method; 2.5 Sources and Notes; 3 Network Performance Measurement and Robustness Analysis; 3.1 Some Preliminaries and

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Sommario/riassunto

A unified treatment of the vulnerabilities that exist in real-world network systems-with tools to identify synergies for mergers and acquisitions Fragile Networks: Identifying Vulnerabilities and Synergies in an Uncertain World presents a comprehensive study of network systems and the roles these systems play in our everyday lives. This book successfully conceptualizes, defines, and constructs mathematically rigorous, computer-based tools for the assessment of network performance and efficiency, along with robustness and vulnerability analysis. The result is a thorough explorat