

1. Record Nr.	UNINA9910140819803321
Titolo	Modeling and simulation fundamentals [[electronic resource]] : theoretical underpinnings and practical domains // edited by John A. Sokolowski, Catherine M. Banks
Pubbl/distr/stampa	Hoboken, N.J., : Wiley, c2010
ISBN	1-282-70756-6 9786612707568 0-470-59062-9 0-470-59061-0
Descrizione fisica	1 online resource (453 p.)
Altri autori (Persone)	SokolowskiJohn A. <1953-> BanksCatherine M. <1960->
Disciplina	511.8 511/.8
Soggetti	Mathematical models Mathematical optimization Simulation methods Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	MODELING AND SIMULATION FUNDAMENTALS; CONTENTS; Preface; Contributors; 1 Introduction to Modeling and Simulation; M&S; M&S Characteristics and Descriptors; M&S Categories; Conclusion; References; 2 Statistical Concepts for Discrete Event Simulation; Probability; Simulation Basics; Input Data Modeling; Output Data Analysis; Conclusion; References; 3 Discrete-Event Simulation; Queuing System Model Components; Simulation Methodology; DES Example; Hand Simulation-Spreadsheet Implementation; Arena Simulation; Conclusion; References; 4 Modeling Continuous Systems; System Class Modeling and Simulation (M&S) StrategyModeling Approach; Model Examples; Simulating Continuous Systems; Simulation Implementation; Conclusion; References; 5 Monte Carlo Simulation; The Monte Carlo Method; Sensitivity Analysis; Conclusion; References; 6 Systems Modeling: Analysis and Operations Research; System Model Types;

Modeling Methodologies and Tools; Analysis of Modeling and Simulation (M&S); OR Methods; Conclusion; References; Further Readings; 7 Visualization; Computer Graphics Fundamentals; Visualization Software and Tools; Case Studies; Conclusion; References 8 M&S Methodologies: A Systems Approach to the Social Sciences Simulating State and Substate Actors with CountrySim: Synthesizing Theories Across the Social Sciences; The CountrySim Application and Sociocultural Game Results; Conclusions and the Way Forward; References; 9 Modeling Human Behavior; Behavioral Modeling at the Physical Level; Behavioral Modeling at the Tactical and Strategic Level; Techniques for Human Behavior Modeling; Human Factors; Human-Computer Interaction; Conclusion; References; 10 Verification, Validation, and Accreditation; Motivation; Background Definitions VV&A Definitions V&V as Comparisons; Performing VV&A; V&V Methods; VV&A Case Studies; Conclusion; Acknowledgments; References; 11 An Introduction to Distributed Simulation; Trends and Challenges of Distributed Simulation; A Brief History of Distributed Simulation; Synchronization Algorithms for Parallel and Distributed Simulation; Distributed Simulation Middleware; Conclusion; References; 12 Interoperability and Composability; Defining Interoperability and Composability; Current Interoperability Standard Solutions; Engineering Methods Supporting Interoperation and Composition; Conclusion References Further Readings; Index

Sommario/riassunto

An insightful presentation of the key concepts, paradigms, and applications of modeling and simulation Modeling and simulation has become an integral part of research and development across many fields of study, having evolved from a tool to a discipline in less than two decades. Modeling and Simulation Fundamentals offers a comprehensive and authoritative treatment of the topic and includes definitions, paradigms, and applications to equip readers with the skills needed to work successfully as developers and users of modeling and simulation. Featuring contributions written b
