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Nota di contenuto	Intro -- ADVANCED DYNAMIC-SYSTEM SIMULATION -- CONTENTS -- PREFACE -- CHAPTER 1 DYNAMIC-SYSTEM MODELS AND SIMULATION -- SIMULATION IS EXPERIMENTATION WITH MODELS -- 1-1 Simulation and Computer Programs -- 1-2 Dynamic-System Models -- (a) Difference-Equation Models -- (b) Differential-Equation Models -- (c) Discussion -- 1-3 Experiment Protocols Define Simulation Studies -- 1-4 Simulation Software -- 1-5 Fast Simulation Program for Interactive Modeling -- ANATOMY OF A SIMULATION RUN -- 1-6 Dynamic-System Time Histories Are Sampled Periodically -- 1-7 Numerical Integration -- (a) Euler Integration -- (b) Improved Integration Rules -- 1-8 Sampling Times and Integration Steps -- 1-9 Sorting Defined-Variable Assignments -- SIMPLE APPLICATION PROGRAMS -- 1-10 Oscillators and Computer Displays -- (a) Linear Oscillator -- (b) Nonlinear Oscillator: Duffing's Differential Equation -- 1-11 Space-Vehicle Orbit Simulation with Variable-Step Integration -- 1-12 Population-Dynamics Model -- 1-13 Splicing Multiple Simulation Runs: Billiard-Ball Simulation -- INTRODUCTION TO CONTROL-SYSTEM SIMULATION -- 1-14 Electrical Servomechanism with Motor-Field Delay and Saturation --

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Sommario/riassunto

"This book introduces Dynamic-system Simulation with a main emphasis on OPEN DESIRE and DESIRE software. The book includes eight comprehensive chapters amounting to approximately 250 pages, as well as includes three appendices housing information on Radial-basis-function, Fuzzy-basis-function Networks, and CLEARN Algorithm. In addition, a CD will be packaged with each book, containing complete binary OPEN DESIRE modeling/simulation program packages for personal-computer LINUX and MS Windows, DESIRE examples, source code and a comprehensive, indexed reference manual. The second edition offers a complete update of all material, boasting two completely new chapters on fast simulation of neural networks"--
