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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 --

1-15 Control-System Frequency Response -- 1-16 Simulation of a Simple Guided Missile -- (a) Guided Torpedo -- (b) Complete Torpedo-Simulation Program -- STOP AND LOOK -- 1-17 Simulation in the Real World: A Word of Caution -- References -- CHAPTER 2 MODELS WITH DIFFERENCE EQUATIONS, LIMITERS, AND SWITCHES -- SAMPLED-DATA SYSTEMS AND DIFFERENCE EQUATIONS -- 2-1 Sampled-Data Difference-Equation Systems -- (a) Introduction -- (b) Difference Equations -- (c) A Minefield of Possible Errors -- 2-2 Solving Systems of First-Order Difference Equations -- (a) General Difference-Equation Model -- (b) Simple Recurrence Relations -- 2-3 Models Combining Differential Equations and Sampled-Data Operations. 2-4 Simple Example -- 2-5 Initializing and Resetting Sampled-Data Variables -- TWO MIXED CONTINUOUS/SAMPLED-DATA SYSTEMS -- 2-6 Guided Torpedo with Digital Control -- 2-7 Simulation of a Plant with a Digital PID Controller -- DYNAMIC-SYSTEM MODELS WITH LIMITERS AND SWITCHES -- 2-8 Limiters, Switches, and Comparators -- (a) Limiter Functions -- (b) Switching Functions and Comparators -- 2-9 Integration of Switch and Limiter Outputs, Event Prediction, and Display Problems -- 2-10 Using Sampled-Data Assignments -- 2-11 Using the step Operator and Heuristic Integration-Step Control -- 2-12 Example: Simulation of a Bang-Bang Servomechanism -- 2-13 Limiters, Absolute Values, and Maximum/Minimum Selection -- 2-14 Output-Limited Integration -- 2-15 Modeling Signal Quantization -- EFFICIENT DEVICE MODELS USING RECURSIVE ASSIGNMENTS -- 2-16 Recursive Switching and Limiter Operations -- 2-17 Track/Hold Simulation -- 2-18 Maximum-Value and Minimum-Value Holding -- 2-19 Simple Backlash and Hysteresis Models -- 2-20 Comparator with Hysteresis (Schmitt Trigger) -- 2-21 Signal Generators and Signal Modulation -- References -- CHAPTER 3 FAST VECTOR-MATRIX OPERATIONS AND SUBMODELS 57 ARRAYS, VECTORS, AND MATRICES -- 3-1 Arrays and Subscripted Variables -- (a) Improved Modeling -- (b) Array Declarations, Vectors, and Matrices -- (c) State-Variable Declarations -- 3-2 Vector and Matrices in Experiment Protocols -- 3-3 Time-History Arrays -- VECTORS AND MODEL REPLICATION -- 3-4 Vector Operations in DYNAMIC Program Segments: The Vectorizing Compiler -- (a) Vector Assignments and Vector Expressions -- (b) Vector Differential Equations -- (c) Vector Sampled-Data Assignments and Difference Equations -- 3-5 Matrix-Vector Products in Vector Expressions -- (a) Definition -- (b) Simple Example: Resonating Oscillators -- 3-6 Index-Shift Operation -- (a) Definition. (b) Preview of Significant Applications -- 3-7 Sorting Vector and Subscripted-Variable Assignments -- 3-8 Replication of Dynamic-System Models -- MORE VECTOR OPERATIONS -- 3-9 Sums, DOT Products, and Vector Norms -- (a) Sums and DOT Products -- (b) Euclidean, Taxicab, and Hamming Norms -- 3-10 Maximum/Minimum Selection and Masking -- (a) Maximum/Minimum Selection -- (b) Masking Vector Expressions -- VECTOR EQUIVALENCE DECLARATIONS SIMPLIFY MODELS -- 3-11 Subvectors -- 3-12 Matrix-Vector Equivalence -- MATRIX OPERATIONS IN DYNAMIC-SYSTEM MODELS -- 3-13 Simple Matrix Assignments -- 3-14 Two-Dimensional Model Replication -- (a) Matrix Expressions and DOT Products -- (b) Matrix Differential Equations -- (c) Matrix Difference Equations -- VECTORS IN PHYSICS AND CONTROL-SYSTEM PROBLEMS -- 3-15 Vectors in Physics Problems -- 3-16 Vector Model of a Nuclear Reactor -- 3-17 Linear Transformations and Rotation Matrices -- 3-18 State-Equation Models of Linear Control Systems -- USER-DEFINED FUNCTIONS AND SUBMODELS -- 3-19 Introduction -- 3-20 User-Defined Functions -- 3-21 Submodel Declaration and Invocation -- 3-22 Dealing with

Sampled-Data Assignments, Limiters, and Switches -- References --
CHAPTER 4 EFFICIENT PARAMETER-INFLUENCE STUDIES AND
STATISTICS COMPUTATION -- MODEL REPLICATION SIMPLIFIES
PARAMETER-INFLUENCE STUDIES -- 4-1 Exploring the Effects of
Parameter Changes -- 4-2 Repeated Simulation Runs Versus Model
Replication -- (a) Simple Repeated-Run Study -- (b) Model Replication
(Vectorization) -- 4-3 Programming Parameter-Influence Studies -- (a)
Measures of System Performance -- (b) Program Design -- (c) Two-
Dimensional Model Replication -- (d) Cross-Plotting Results -- (e)
Maximum/Minimum Selection -- (f) Iterative Parameter Optimization --
STATISTICS -- 4-4 Random Data and Statistics -- 4-5 Sample Averages
and Statistical Relative Frequencies.
COMPUTING STATISTICS BY VECTOR AVERAGING -- 4-6 Fast
Computation of Sample Averages -- 4-7 Fast Probability Estimation --
4-8 Fast Probability-Density Estimation -- (a) Simple Probability-
Density Estimate -- (b) Triangle and Parzen Windows -- (c)
Computation and Display of Parzen-Window Estimates -- 4-9 Sample-
Range Estimation -- REPLICATED AVERAGES GENERATE SAMPLING
DISTRIBUTIONS -- 4-10 Computing Statistics by Time Averaging -- 4-
11 Sample Replication and Sampling-Distribution Statistics -- (a)
Introduction -- (b) Demonstrations of Empirical Laws of Large Numbers
-- (c) Counterexample: Fat-Tailed Distribution -- RANDOM-PROCESS
SIMULATION -- 4-12 Random Processes and Monte Carlo Simulation --
4-13 Modeling Random Parameters and Random Initial Values -- 4-14
Sampled-Data Random Processes -- 4-15 "Continuous" Random
Processes -- (a) Modeling Continuous Noise -- (b) Continuous Time
Averaging -- (c) Correlation Functions and Spectral Densities -- 4-16
Problems with Simulated Noise -- SIMPLE MONTE CARLO EXPERIMENTS
-- 4-17 Introduction -- 4-18 Gambling Returns -- 4-19 Vectorized
Monte Carlo Study of a Continuous Random Walk -- References --
CHAPTER 5 MONTE CARLO SIMULATION OF REAL DYNAMIC SYSTEMS --
INTRODUCTION -- 5-1 Survey -- REPEATED-RUN MONTE CARLO
SIMULATION -- 5-2 End-of-Run Statistics for Repeated Simulation
Runs -- 5-3 Example: Effects of Gun-Elevation Errors on a 1776
Cannonball Trajectory -- 5-4 Sequential Monte Carlo Simulation --
VECTORIZED MONTE CARLO SIMULATION -- 5-5 Vectorized Monte
Carlo Simulation of the 1776 Cannon Shot -- 5-6 Combined Vectorized
and Repeated-Run Monte Carlo Simulation -- 5-7 Interactive Monte
Carlo Simulation: Computing Runtime Histories of Statistics with
DYNAMIC-Segment DOT Operations -- 5-8 Example: Torpedo
Trajectory Dispersion -- SIMULATION OF NOISY CONTROL SYSTEMS.
5-9 Monte Carlo Simulation of a Nonlinear Servomechanism: A Noise-
Input Test -- 5-10 Monte Carlo Study of Control-System Errors Caused
by Noise -- ADDITIONAL TOPICS -- 5-11 Monte Carlo Optimization --
5-12 Convenient Heuristic Method for Testing Pseudorandom Noise --
5-13 Alternative to Monte Carlo Simulation -- (a) Introduction -- (b)
Dynamic Systems with Random Perturbations -- (c) Mean-Square Errors
in Linearized Systems -- References -- CHAPTER 6 VECTOR MODELS OF
NEURAL NETWORKS -- ARTIFICIAL NEURAL NETWORKS -- 6-1
Introduction -- 6-2 Artificial Neural Networks -- 6-3 Static Neural
Networks: Training, Validation, and Applications -- 6-4 Dynamic
Neural Networks -- SIMPLE VECTOR ASSIGNMENTS MODEL NEURON
LAYERS -- 6-5 Neuron-Layer Declarations and Neuron Operations --
6-6 Neuron-Layer Concatenation Simplifies Bias Inputs -- 6-7
Normalizing and Contrast-Enhancing Layers -- (a) Pattern
Normalization -- (b) Contrast Enhancement: Softmax and Thresholding
-- 6-8 Multilayer Networks -- 6-9 Exercising a Neural-Network Model
-- (a) Computing Successive Neuron-Layer Outputs -- (b) Input from

Pattern-Row Matrices -- (c) Input from Text Files and Spreadsheets --
SUPERVISED TRAINING FOR REGRESSION -- 6-10 Mean-Square
Regression -- (a) Problem Statement -- (b) Linear Mean-Square
Regression and the Delta Rule -- (c) Nonlinear Neuron Layers and
Activation-Function Derivatives -- (d) Error-Measure Display -- 6-11
Backpropagation Networks -- (a) The Generalized Delta Rule -- (b)
Momentum Learning -- (c) Simple Example -- (d) The Classical XOR
Problem and Other Examples -- MORE NEURAL-NETWORK MODELS --
6-12 Functional-Link Networks -- 6-13 Radial-Basis-Function
Networks -- (a) Basis-Function Expansion and Linear Optimization --
(b) Radial Basis Functions -- 6-14 Neural-Network Submodels --
PATTERN CLASSIFICATION -- 6-15 Introduction.
6-16 Classifier Input from Files.

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"--
