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Nota di contenuto	 Preface 1. Introduction 1.1 Signals 1.2 Systems and Models. 1.3 System Modeling 1.4 System Identification 1.5 How Common are Nonlinear Systems? 2. Background 2.1 Vectors and Matrices 2.2 Gaussian Random Variables 2.3 Correlation Functions 2.4 Mean-Square Parameter Estimation 2.5 Polynomials 2.6 Notes and References 2.7 Problems 2.8 Computer Exercises 3. Models of Linear Systems 3.1 Linear Systems 3.2 Nonparametric Models 3.3 Parametric Models 3.4 State-Space Models 3.5 Notes and References 3.6 Theoretical Problems 3.7 Computer Exercises 4. Models of Nonlinear Systems 4.1 The Volterra Series 4.2 The Wiener Series 4.3 Simple Block Structures 4.4 Parallel Cascades 4.5 The Wiener-Bose Model 4.6 Notes and References 5.1 Interduction of Linear Systems 5.1 Introduction 5.2 Nonparametric Time- Domain Models 5.5 Notesand References 5.6 Computer Exercises 6. Correlation-Based Methods 6.1 Methods for Functional Expansions 6.2 Block Structured Models 6.3 Problems 6.4 Computer Exercises 7. Explicit Least-Squares Methods 7.4 Principal Dynamic Modes 7.5 Problems. 7.6 Computer Exercises 8. Iterative Least-Squares Methods 8.1 Optimization Methods 8.2 Parallel Cascade Methods 8.3 Application: Visual Processing in the Light Adapted Fly Retina 8.4 Problems 8.5 Computer Exercises Index IEEE Press Series in Biomedical Engineering.
Sommario/riassunto	Significant advances have been made in the field since the previous classic texts were written. This text brings the available knowledge up to date. * Enables the reader to use a wide variety of nonlinear system identification techniques. * Offers a thorough treatment of the underlying theory. * Provides a MATLAB toolbox containing implementation of the latest identification methods together with an extensive set of problems using realistic data sets.