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Noise Model -- Chapter 10 Estimation with Unknown Noise Model - Standard Solutions -- Chapter 11 Model Selection and Validation -- Chapter 12 Estimation with Unknown Noise Model - The Local Polynomial Approach -- Chapter 13 Basic Choices in System Identification -- Chapter 14 Guidelines for the User -- Chapter 15 Some Linear Algebra Fundamentals -- Chapter 16 Some Probability and Stochastic Convergence Fundamentals -- Chapter 17 Properties of Least Squares Estimators with Deterministic Weighting -- Chapter 18 Properties of Least Squares Estimators with Stochastic Weighting -- Chapter 19 Identification of Semilinear Models -- Chapter 20 Identification of Invariants of (Over) Parameterized Models -- References -- Subject Index -- Author Index -- About the Authors

Sommario/riassunto

System identification is a general term used to describe mathematical tools and algorithms that build dynamical models from measured data. Used for prediction, control, physical interpretation, and the designing of any electrical systems, they are vital in the fields of electrical, mechanical, civil, and chemical engineering. Focusing mainly on frequency domain techniques, *System Identification: A Frequency Domain Approach, Second Edition* also studies in detail the similarities and differences with the classical time domain approach. It highlights many of the important steps in the identification process, points out the possible pitfalls to the reader, and illustrates the powerful tools that are available. Readers of this Second Edition will benefit from: . MATLAB software support for identifying multivariable systems that is freely available at the website <http://booksupport.wiley.com>. State-of-the-art system identification methods for both time and frequency domain data. New chapters on non-parametric and parametric transfer function modeling using (non-)period excitations. Numerous examples and figures that facilitate the learning process. A simple writing style that allows the reader to learn more about the theoretical aspects of the proofs and algorithms. Unlike other books in this field, *System Identification, Second Edition* is ideal for practicing engineers, scientists, researchers, and both master's and PhD students in electrical, mechanical, civil, and chemical engineering.
