1. Record Nr. UNINA9910830963703321 Autore Schoukens J. (Johan) Titolo Mastering system identification in 100 exercises / / Johan Schoukens, Rik Pintelon, Yves Rolain Pubbl/distr/stampa Picataway: ,: IEEE Press. , c2012 [Piscatagay, New Jersey]:,: IEEE Xplore,, [2012] **ISBN** 1-280-67357-5 9786613650504 1-118-21852-3 1-118-21853-1 1-118-21850-7 Descrizione fisica 1 online resource (284 p.) Classificazione TEC032000 Altri autori (Persone) PintelonR (Rik) RolainYves 519.5 Disciplina Soggetti System identification Linear systems - Mathematical models - Quality control Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Includes bibliographical references and indexes. Nota di bibliografia Nota di contenuto Preface xiii -- Acknowledgments xv -- Abbreviations xvii -- 1 Identification 1 -- 1.1 Introduction 1 -- 1.2 Illustration of Some Important Aspects of System Identification 2 -- Exercise 1 .a (Least squares estimation of the value of a resistor) 2 -- Exercise 1 .b (Analysis of the standard deviation) 3 -- Exercise 2 (Study of the asymptotic distribution of an estimate) 5 -- Exercise 3 (Impact of noise on the regressor (input) measurements) 6 -- Exercise 4 (Importance of the choice of the independent variable or input) 7 -- Exercise 5.a (combining measurements with a varying SNR: Weighted least squares estimation) 8 -- Exercise 5.b (Weighted least squares estimation: A study of the variance) 9 -- Exercise 6 (Least squares estimation of models that are linear in the parameters) 11 -- Exercise 7 (Characterizing a 2-dimensional parameter estimate) 12 -- 1.3 Maximum Likelihood Estimation for Gaussian and Laplace Distributed

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Sommario/riassunto

"This book enables readers to understand system identification and linear system modeling through 100 practical exercises without requiring complex theoretical knowledge. The contents encompass state-of-the-art system identification methods, with both time and frequency domain system identification methods covered, including the pros and cons of each. Each chapter features MATLAB exercises, discussions of the exercises, accompanying MATLAB downloads, and

larger projects that serve as potential assignments in this learn-by-doing resource"--