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Nota di contenuto	Cover -- Title Page -- Copyright -- Contents -- About the Authors -- Preface -- Acronyms -- Introduction -- Chapter 1 Concepts -- 1.1 PID and Model Predictive Control -- 1.2 TwoLayered Model Predictive Control -- 1.3 Hierarchical Model Predictive Control -- Chapter 2 Parameter Estimation and Output Prediction -- 2.1 Test Signal for Model Identification -- 2.1.1 Step Test -- 2.1.2 White Noise -- 2.1.3 PseudoRandom Binary Sequence -- 2.1.4 Generalized Binary Noise -- 2.2 Step Response Model Identification -- 2.2.1 Model -- 2.2.2 Data Processing -- 2.2.2.1 Marking or Interpolation of Bad Data -- 2.2.2.2 Smoothing Data -- 2.2.3 Model Identification -- 2.2.3.1 Case Grouping -- 2.2.3.2 Cased Data Preparation for Stable Dependent Variables -- 2.2.3.3 Cased Data Preparation for Integral Dependent Variables -- 2.2.3.4 Least Square Solution to Parameter Regression -- 2.2.3.5 Least Square Solution by SVD Decomposition -- 2.2.3.6 Filtering Pulse Response Coefficients
Sommario/riassunto	This book provides an in-depth exploration of Model Predictive Control (MPC), a class of model-based control algorithms. It delves into various aspects such as parameter estimation, steady-state target calculation, and two-layered dynamic matrix control (DMC) for stable and integral

processes. The authors, Baocang Ding and Yuanqing Yang, aim to educate both undergraduate and graduate students, as well as practitioners in automation and control systems. The text covers theoretical foundations and practical applications, including robust and heuristic models, output feedback, and real-time optimization. The book is intended for those studying or working in fields like process control and automation, offering insights into advanced control strategies and algorithm implementation.
