
Birkhäuser

 1st
edition

2013, XVII, 356 p. 168 illus.

Printed book

Hardcover

Printed book

Hardcover

ISBN 978-0-8176-4892-3

\$ 109,99

Available

Discount group

Professional Books (2)

Product category

Graduate/advanced undergraduate textbook

Series

Control Engineering

Other renditions

Softcover

ISBN 978-1-4899-9122-5

Mathematics : Systems Theory, Control

Shtessel, Y., Edwards, C., Fridman, L., Levant, A.

Sliding Mode Control and Observation

- Provides the reader with a broad range of material from first principles up to the current state-of-the-art in the area of sliding mode control and observation
- Practical case studies, which present the results of real sliding mode controller implementations, are used to illustrate the successful practical application of the theory
- Exercises are provided at the end of each chapter

The sliding mode control methodology has proven effective in dealing with complex dynamical systems affected by disturbances, uncertainties and unmodeled dynamics. Robust control technology based on this methodology has been applied to many real-world problems, especially in the areas of aerospace control, electric power systems, electromechanical systems, and robotics. Sliding Mode Control and Observation represents the first textbook that starts with classical sliding mode control techniques and progresses toward newly developed higher-order sliding mode control and observation algorithms and their applications. The present volume addresses a range of sliding mode control issues, including: *Conventional sliding mode controller and observer design *Second-order sliding mode controllers and differentiators *Frequency domain analysis of conventional and second-order sliding mode controllers *Higher-order sliding mode controllers and differentiators *Higher-order sliding mode observers *Sliding mode disturbance observer based control *Numerous applications, including reusable launch vehicle and satellite formation control, blood glucose regulation, and car steering control are used as case studies Sliding Mode Control and Observation is aimed at graduate students with a basic knowledge of classical control theory and some knowledge of state-space methods and nonlinear systems, while being of interest to a wider audience of graduate students in electrical/mechanical/aerospace engineering and applied mathematics, as well as researchers in electrical, computer, chemical, civil, mechanical, aeronautical, and industrial engineering, applied mathematicians, control engineers, and physicists.

Order online at springer.com/booksellers
Springer Nature Customer Service Center LLC

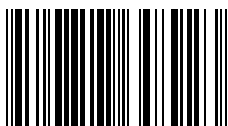
233 Spring Street

New York, NY 10013

USA

T: +1-800-SPRINGER NATURE

(777-4643) or 212-460-1500

customerservice@springernature.com


ISBN 978-0-8176-4892-3 / BIC: GPFC / SPRINGER NATURE: SCM13070

Prices and other details are subject to change without notice. All errors and omissions excepted. Americas: Tax will be added where applicable. Canadian residents please add PST, QST or GST. Please add \$5.00 for shipping one book and \$ 1.00 for each additional book. Outside the US and Canada add \$ 10.00 for first book, \$5.00 for each additional book. If an order cannot be fulfilled within 90 days, payment will be refunded upon request. Prices are payable in US currency or its equivalent.