1. Record Nr. UNINA9910866581703321

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Titolo	Fractional-Order Sliding Mode Control: Methodologies and Applications / / by Guanghui Sun, Chengwei Wu, Xiaolei Li, Zhiqiang Ma, Shidong Xu, Xiangyu Shao
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2024
ISBN	3-031-60847-X
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (266 pages)
Collana	Studies in Systems, Decision and Control, , 2198-4190 ; ; 532
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Disciplina	629.8312 003
Soggetti	Control engineering Robotics Automation System theory Control theory Computational intelligence Control and Systems Theory Control, Robotics, Automation Systems Theory, Control Computational Intelligence
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	-- Chapter 1. Introduction. -- Part I Brief View of Fractional-Order Control Strength in Modelling and Control. -- Chapter 2 Fractional-Order Dynamics and Control of Rigid-Flexible Coupling Space Structures. -- Chapter 3 Fractional-Order Control for Tethered Satellite System. -- Part II Fractional-Order SMC of Linear Motor Systems. -- Chapter 4 Practical Tracking ControL via Discrete-Time Fractional-Order SMC. -- Chapter 5 Practical Tracking Control via Adaptive

Fractional-Order Terminal SMC. -- Chapter 6 Discrete-time Fractional-Order Terminal Sliding Mode Tracking Control. -- Chapter 7 Fractional-Order Sliding Mode Contouring Error Control. -- Part III Fractional-Order SMC for Deployment of Space Tethered System. -- Chapter 8 Fractional-Order Fuzzy SMC for Deployment of STS. -- Chapter 9 Fractional-Order Nonsingular Terminal SMC for Deployment of STS. -- Chapter 10 Fractional-Order SMC for Deployment of STS. -- Chapter 11 Fractional-Order Adaptive SMC for Deployment of STS.

Sommario/riassunto

This book delves deep into fractional-order control and fractional-order sliding mode techniques, addressing key challenges in the control design of linear motor systems and control for the deployment of space tethered systems. Innovative strategies such as adaptive fractional-order sliding mode control and fractional-order fuzzy sliding mode control schemes are devised to enhance system performance. Divided into three parts, it covers a brief view of fractional-order control strength in modeling and control, fractional-order sliding mode control of linear motor systems, and fractional-order sliding mode control for the deployment of space tethered systems. Each chapter offers valuable insights and solutions. Simulations and experiments validate the efficacy of these approaches, making this book essential for researchers, engineers, and practitioners in control systems and aerospace engineering.