

1. Record Nr.	UNINA9910484519603321
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Titolo	Kalman Filtering and Information Fusion / / by Hongbin Ma, Liping Yan, Yuanqing Xia, Mengyin Fu
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2020
ISBN	981-15-0806-2
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (xvii, 291 pages) : illustrations
Disciplina	629.8312
Soggetti	Control engineering Robotics Automation Engineering mathematics Engineering - Data processing System theory Control theory Electrical engineering Control, Robotics, Automation Mathematical and Computational Engineering Applications Systems Theory, Control Electrical and Electronic Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Preface -- Part I Kalman Filtering: Preliminaries -- Part II Kalman Filtering for Uncertain Systems -- Part III Kalman Filtering for Multi-Sensor Systems -- Part IV Kalman Filtering for Multi-Agent Systems.
Sommario/riassunto	This book addresses a key technology for digital information processing: Kalman filtering, which is generally considered to be one of the greatest discoveries of the 20th century. It introduces readers to issues concerning various uncertainties in a single plant, and to corresponding solutions based on adaptive estimation. Further, it discusses in detail the issues that arise when Kalman filtering technology is applied in multi-sensor systems and/or multi-agent systems, especially when various sensors are used in systems like

intelligent robots, autonomous cars, smart homes, smart buildings, etc., requiring multi-sensor information fusion techniques. Furthermore, when multiple agents (subsystems) interact with one another, it produces coupling uncertainties, a challenging issue that is addressed here with the aid of novel decentralized adaptive filtering techniques. Overall, the book's goal is to provide readers with a comprehensive investigation into the challenging problem of making Kalman filtering work well in the presence of various uncertainties and/or for multiple sensors/components. State-of-art techniques are introduced, together with a wealth of novel findings. As such, it can be a good reference book for researchers whose work involves filtering and applications; yet it can also serve as a postgraduate textbook for students in mathematics, engineering, automation, and related fields. To read this book, only a basic grasp of linear algebra and probability theory is needed, though experience with least squares, navigation, robotics, etc. would definitely be a plus.
