



1st ed. 2019, XXVIII, 209 p. 118 illus., 25 illus. in color.

Printed book

Hardcover

139,99 € | £119.99 | \$169.99

^[1]149,79 € (D) | 153,99 € (A) | CHF 165,50

eBook

117,69 € | £95.50 | \$129.00

^[2]117,69 € (D) | 117,69 € (A) | CHF 132,00

Available from your library or
springer.com/shop

MyCopy ^[3]

Printed eBook for just

€ | \$ 24.99

springer.com/mycopy

[Error\[en_EN | Export.Bookseller. MediumType | SE\]](#)

Krzysztof Patan

Robust and Fault-Tolerant Control

Neural-Network-Based Solutions

Series: Studies in Systems, Decision and Control

- Equips the reader to solve problems in a wide class of nonlinear systems
- Provides opportunities for practice and experience with examples of robust and fault-tolerant control
- Allows the reader easy access to the uses of artificial neural networks in nonlinear control synthesis with a concise review

Robust and Fault-Tolerant Control proposes novel automatic control strategies for nonlinear systems developed by means of artificial neural networks and pays special attention to robust and fault-tolerant approaches. The book discusses robustness and fault tolerance in the context of model predictive control, fault accommodation and reconfiguration, and iterative learning control strategies. Expanding on its theoretical deliberations the monograph includes many case studies demonstrating how the proposed approaches work in practice. The most important features of the book include: a comprehensive review of neural network architectures with possible applications in system modelling and control; a concise introduction to robust and fault-tolerant control; step-by-step presentation of the control approaches proposed; an abundance of case studies illustrating the important steps in designing robust and fault-tolerant control; and a large number of figures and tables facilitating the performance analysis of the control approaches described. The material presented in this book will be useful for researchers and engineers who wish to avoid spending excessive time in searching neural-network-based control solutions. It is written for electrical, computer science and automatic control engineers interested in control theory and their applications. This monograph will also interest postgraduate students engaged in self-study of nonlinear robust and fault-tolerant control.

Order online at springer.com / or for the Americas call (toll free) 1-800-SPRINGER / or email us at: customerservice@springernature.com. / For outside the Americas call +49 (0) 6221-345-4301 / or email us at: customerservice@springernature.com.

The first € price and the £ and \$ price are net prices, subject to local VAT. Prices indicated with [1] include VAT for books; the €(D) includes 7% for Germany, the €(A) includes 10% for Austria. Prices indicated with [2] include VAT for electronic products; 19% for Germany, 20% for Austria. All prices exclusive of carriage charges. Prices and other details are subject to change without notice. All errors and omissions excepted. [3] No discount for MyCopy.

