



*mathematics*



*Special Issue Reprint*

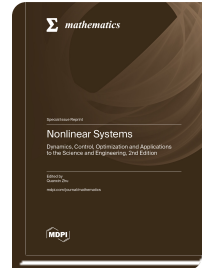
## **Nonlinear Systems: Dynamics, Control, Optimization and Applications to the Science and Engineering, 2nd Edition**

[www.mdpi.com/books/reprint/10437](http://www.mdpi.com/books/reprint/10437)

Edited by  
Quanxin Zhu

ISBN 978-3-7258-3061-9 (Hardback)

ISBN 978-3-7258-3062-6 (PDF)



Open Mathematics is a challenging notion for theoretical modeling, technical analysis, and numerical simulation in the fields of physics and mathematics, among others, as highly correlated nonlinear phenomena, evolving over a large range of time and length scales, control the underlying systems and processes in their spatiotemporal evolution. Indeed, available data, be they physical, biological, or financial, and technologically complex systems and stochastic systems, such as mechanical or electronic devices, can be managed from the same conceptual approach, both analytically and through computer simulation, using effective nonlinear dynamics methods.

The aim of this Special Issue is to highlight papers that show the dynamics, control, optimization, and applications of nonlinear systems. This has recently become an increasingly popular subject, with impressive growth concerning applications in engineering, economics, biology, and medicine, and can be considered a veritable contribution to the literature. Original papers relating to the objective presented above are especially welcome subjects.

Potential topics include, but are not limited to, the following: Stability analysis of discrete and continuous dynamical systems; Nonlinear dynamics in biological complex systems; Stability and stabilization of stochastic systems; Mathematical models in statistics and probability; Synchronization of oscillators and chaotic systems; Optimization methods of systems; Reliability modeling and system optimization; Computation and control systems.



Order Your Print Copy  
You can order print copies at  
[www.mdpi.com/books/reprint/10437](http://www.mdpi.com/books/reprint/10437)

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



## Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



## Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



## High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



## High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



## Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.