



Special Issue Reprint

Nonlinear Dynamics and Entropy of Complex Systems with Hidden and Self-excited Attractors

www.mdpi.com/books/reprint/1279

Edited by Christos Volos Sajad Jafari Jacques Kengne Jesus M. Munoz-Pacheco Karthikeyan Rajagopal

ISBN 978-3-03897-898-5 (Softback) ISBN 978-3-03897-899-2 (PDF) Antropy of Complex Systems with Hidden and selfcomplex Systems with Hidden and selfcomplex Attractors

In recent years, entropy has been used as a measure of the degree of chaos in dynamical systems. Thus, it is important to study entropy in nonlinear systems. Moreover, there has been increasing interest in the last few years regarding the novel classification of nonlinear dynamical systems including two kinds of attractors: self-excited attractors and hidden attractors.

The localization of self-excited attractors by applying a standard computational procedure is straightforward. In systems with hidden attractors, however, a specific computational procedure must be developed, since equilibrium points do not help in the localization of hidden attractors. Some examples of this kind of system are chaotic dynamical systems with no equilibrium points; with only stable equilibria, curves of equilibria, and surfaces of equilibria; and with non-hyperbolic equilibria. There is evidence that hidden attractors play a vital role in various fields ranging from phase-locked loops, oscillators, describing convective fluid motion, drilling systems, information theory, cryptography, and multilevel DC/DC converters.

This Special Issue is a collection of the latest scientific trends on the advanced topics of



opy, fractional order calculus, and applications in complex Systemistrations at volume advanced topics of the adva

MDPINBOOKS Publishing Open Access Books & Series

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.



ᆔ

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.

MDPI AG Grosspeteranlage 5 4052 Basel Switzerland Tel: +41 61 683 77 34 www.mdpi.com/books books@mdpi.com

