





Special Issue Reprint

Advances in Differential Dynamical Systems with Applications to Economics and Biology

www.mdpi.com/books/reprint/6448

Edited by Mihaela Neamţu Eva Kaslik Anca Rădulescu

ISBN 978-3-0365-5865-3 (Hardback) ISBN 978-3-0365-5866-0 (PDF)



In recent research on natural processes, mathematical modeling has become a very useful tool. It is often the case that, in fields such as economics and biology, a temporal lag between cause and effect must often be taken into consideration. In modeling, a natural and practical implementation of this phenomenon is through the use of distributed delays. This is because they illustrate the situation where temporal lags arise in certain ranges of values for certain related probability distributions, taking into account the variables' entire history of behavior. Another mathematical tool that allows for the memory and inherited properties of systems to be encompassed in a model is the replacement of integer-order derivatives with fractional derivatives. To address realistic conditions, stochastic perturbation framed by a stochastic differential delay system can be used to explain the ambiguity about the context in which the system operates. The present book comprises all the 16 articles accepted and published in the Special Issue "Advances in Differential Dynamical Systems with Applications to Economics and Biology" of the MDPI journal Mathematics, with focuses on the dynamical analysis of mathematical models, arising from economy and biology, and innovative developments in mathematical techniques for their applications. We expect that the international scientific community will find this collection of research papers influential and that they will spur additional investigations on diverse applications with respect to dynamical systems in all scientific areas.



Order Your Print Copy You can order print copies at www.mdpi.com/books/reprint/6448



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.

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

