



mathematics



Special Issue Reprint

Applied Analysis of Ordinary Differential Equations

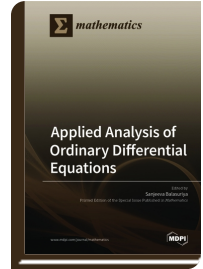
www.mdpi.com/books/reprint/1795

Edited by

Sanjeeva Balasuriya

ISBN 978-3-03921-726-7 (Softback)

ISBN 978-3-03921-727-4 (PDF)



One might say that ordinary differential equations (notably, in Isaac Newton's analysis of the motion of celestial bodies) had a central role in the development of modern applied mathematics. This book is devoted to research articles which build upon this spirit: combining analysis with the applications of ordinary differential equations (ODEs). ODEs arise across a spectrum of applications in physics, engineering, geophysics, biology, chemistry, economics, etc., because the rules governing the time-variation of relevant fields is often naturally expressed in terms of relationships between rates of change. ODEs also emerge in stochastic models—for example, when considering the evolution of a probability density function—and in large networks of interconnected agents. The increasing ease of numerically simulating large systems of ODEs has resulted in a plethora of publications in this area; nevertheless, the difficulty of parametrizing models means that the computational results by themselves are sometimes questionable. Therefore, analysis cannot be ignored. This book comprises articles that possess both interesting applications and the mathematical analysis driven by such applications.



Order Your Print Copy

You can order print copies at

www.mdpi.com/books/reprint/1795

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.