

Special Issue

Symmetry in Discrete Dynamical Systems and Ordinary Differential Equations

Message from the Guest Editors

Nowadays, numerous real world phenomena and processes are mathematically modelled by discrete dynamical systems and ordinary differential equations. Many of such models exhibit different kinds of symmetry. It can be symmetry of discrete or differential equations with respect to some groups of transformation, symmetry of phase portraits, symmetry of certain solutions, time-reversible symmetry etc. Sometimes symmetry is hidden and can be seen only after some nonlinear transformations. Some kinds of symmetry in dynamical systems are often related to specific properties of the systems, like integrability, linearizability and periodicity of solutions. Existence of symmetry can be helpful in the control theory since it can allow to control real world models described by ordinary differential equations or discrete dynamical equations. Sometimes symmetry can be used in order to reduce a system of differential equations to an equivalent system of a simple form. It is also important on studies on Hilbert's 16th problem, since it allows to construct polynomial systems of ODEs with many limit cycles.

Guest Editors

Prof. Dr. Valery G. Romanovskij

Faculty of Electrical Engineering, University of Maribor and the Center for Applied Mathematics and Theoretical Physics, 2000 Maribor, Slovenia

Prof. Dr. Xingwu Chen

Department of Mathematics, Sichuan University, Chengdu, Sichuan 610064, China

Deadline for manuscript submissions

closed (31 August 2020)



Symmetry

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 5.2



mdpi.com/si/35485

Symmetry
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
symmetry@mdpi.com

[mdpi.com/journal/
symmetry](https://mdpi.com/journal/symmetry)





Symmetry

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 5.2



[mdpi.com/journal/
symmetry](https://mdpi.com/journal/symmetry)



About the Journal

Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

Editor-in-Chief

Prof. Dr. Sergei Odintsov
ICREA, 08010 Barcelona and Institute of Space Sciences (IEEC-CSIC),
C. Can Magrans s/n, 08193 Barcelona, Spain

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within SCIE (Web of Science), Scopus, CAPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q2 (Multidisciplinary Sciences) / CiteScore - Q1
(General Mathematics)