Symmetry in Nonlinear Dynamics

Guest Editors:

Dr. Chaoran Liu
Department of Mechanics, Beijing University of Technology, Beijing 100124, China

Dr. Shitong Fang
College of Mechatronics and Control Engineering, Shenzhen University, Shenzhen 518060, China

Dr. Guobiao Hu
Internet of Things Thrust, The Hong Kong University of Science and Technology (Guangzhou), Nansha, Guangzhou 511400, China

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Message from the Guest Editors

Nonlinear dynamical phenomena are prevalent in mechanical, civil, aerospace, and other engineering fields, giving rise to complex and intriguing dynamic occurrences, such as bifurcation, chaos, and super-/sub-harmonic resonances. While engineering nonlinear dynamics may lead to unfavorable consequences, they can also occasionally bring about beneficial effects that linear dynamical systems can never achieve. Additionally, there are many symmetry, mathematics theory, and algorithm issues in nonlinear dynamics. Thus, there is a pressing need for extensive research to be carried out regarding symmetry in nonlinear dynamical problems.

Special Issue

Editor-in-Chief

Prof. Dr. Sergei D. Odintsov
1. Institució Catalana de Recerca i Estudis Avançats (ICREA), Passeig Luis Companys, 23, 08010 Barcelona, Spain
2. Institute of Space Sciences (ICE-CSIC), C. Can Magrans s/n, 08193 Barcelona, Spain

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.

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