symmetry

an Open Access Journal by MDPI

IMPACT FACTOR 2.2

CITESCORE 5.4

Theory and Applications of Nonlinear Equations with Parameters: Branching, Regularization, Group Symmetry and Solutions Blow-Up

Guest Editors:

Prof. Dr. Nikolai A. Sidorov
Institute of Mathematics and Information Technologies, Irkutsk State University, 1 Karl Marx Str., 664003 Irkutsk, Russia

Prof. Dr. Aleksander Sinitsyn
Departamento de Matemáticas (Bogotá), Universidad Nacional de Colombia, Carrera 45, Colombia

Deadline for manuscript submissions:
closed (31 October 2023)

Message from the Guest Editors

Dear Colleagues,

A series of applications of the Lyapunov–Schmidt method, Conley index theory, and the central manifold methods in the conditions of group symmetry were reported in many seminal works in recent decades. Various critical processes in plasma physics, fluid dynamics, and thermodynamics are modeled using the branching theory of nonlinear differential-operator parameter-dependent equations. The objective of this Special Issue is to report on the cutting-edge development of the advanced branching theory of nonlinear equations and their applications. The Special issue will bring together experts in the qualitative theory of differential-operator equations, numerical analysts, and practitioners in the various applied fields of contemporary natural sciences. Results on the solvability of non-standard nonlinear equations with parameters will be reported, focusing on the analysis of the problems associated with branching, regularization, group symmetry, and solution blow-up phenomena.

Prof. Dr. Nikolai A. Sidorov
Dr. Aleksander Sinitsyn
Guest Editors

symmetry

IMPACT FACTOR 2.2

CITESCORE 5.4

an Open Access Journal by MDPI

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.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.
High Visibility: indexed within Scopus, SCIE (Web of Science), CAPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.
Journal Rank: JCR - Q2 (*Multidisciplinary Sciences*) / CiteScore - Q1 (General Mathematics)

Contact Us

Symmetry Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/symmetry
symmetry@mdpi.com
𝕏@Symmetry_MDPI