Special Issue

Symmetry Methods for Solving Differential Equations

Message from the Guest Editor

Symmetry Analysis is a systematic method of solving differential equations which has been widely applied to many mathematical models in search of analytical solutions. The results of ad-hoc methods can be combined and classified within the context of symmetries of differential equations. The aim of this Special Issue is to collect high-quality work and provide a dissemination of recent results on the topic. Lie Group Theory, Noether Symmetries, and the Exterior Calculus approach are widely used symmetry methods. Contributions to the development of these methods are within the scope of this Special Issue. Studies on new theories combining symmetry with perturbation methods, such as the approximate symmetry methods, are welcome. Classical Lie Point Symmetries, Equivalence Transformations, Group Classifications, Non-Classical Symmetries, and Lie–Backlund Symmetries are other techniques that may be considered. Papers employing special group transformations (Scaling, Translational, Spiral), as well as other similarity transformations, are also acceptable...

Guest Editor

Prof. Dr. Mehmet Pakdemirli

Professor Emeritus, Department of Mechanical Engineering, Manisa Celal Bayar University, 45140 Manisa, Turkey

Deadline for manuscript submissions

closed (26 July 2024)

Mathematical and Computational Applications

MDPI

About the Journal

Message from the Editorial Board

Editors-in-Chief

Prof. Dr. Oliver Schütze
Depto de Computacion, Cinvestav, Mexico City 07360, Mexico

Prof. Dr. Gianluigi Rozza
SISSA mathLab, International School for Advanced Studies, Office A-435, Via Bonomea 265, 34136 Trieste, Italy

Author Benefits

High Visibility:
indexed within Scopus, ESCI (Web of Science), Inspec, and other databases.

Journal Rank:
JCR - Q2 (Mathematics, Interdisciplinary Applications) Rapid Publication: manuscripts are peer-reviewed and a first decision is provided to authors approximately 25.3 days after submission; acceptance to publication is undertaken in 2.9 days (median values for papers published in this journal in the first half of 2025).

Recognition of Reviewers:
reviewers who provide timely, thorough peer-review reports receive vouchers entitling them to a discount on the APC of their next publication in any MDPI journal, in appreciation of the work done.