Special Issue

Recent Developments for Nonlinear PDEs, Symmetries and Integrabilities

Message from the Guest Editors

This Special Issue highlights recent advances in nonlinear partial differential equations (PDEs), symmetries, and integrabilities, spanning core and emerging themes in the field. It encompasses foundational topics such as well-posedness, variational problems, and stability analysis, which underpin the validity and robustness of nonlinear models. Extensions to stochastic partial differential equations (PDEs) and fractional PDEs address key challenges of nonlocality and uncertainty, whereas symmetry analysis and integrable systems—leveraging tools like Lax pairs and conservation laws—remain pivotal to deciphering solvable structures. For integrability methods specifically—including the Hirota method, Darboux transformations, inverse scattering transform, and Riemann–Hilbert techniques—elucidations of their associated coherent structures (e.g., solitons, rogue waves, and breathers) are also highly encouraged. This Issue brings together original research and reviews, fostering cross-disciplinary progress for researchers in mathematics, physics, and engineering.

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Axioms is dedicated to the foundations (structure and axiomatic basis, in particular) of mathematical theories, not only from a crisp or strictly classical sense, but also from a fuzzy and generalized sense. This includes the more innovative current scientific trends, devoted to discover and solve new challenging problems. The prime goal of *Axioms* is to publish first-class, original research articles under an open access policy with minimal fees for the authors. We would be pleased to welcome you as one of our authors.

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