Special Issue

Nonlinear Wave Dynamics: Theory and Application

Message from the Guest Editors

Nonlinear waves, often governed by nonlinear partial differential equations, play a crucial role in describing a wide range of physical phenomena, such as fluid dynamics, nonlinear optics, plasma physics, and condensed matter systems. They are not only mathematically fascinating but also have significant implications for understanding complex natural systems and engineering applications. This Special Issue provides a platform for researchers from academia and industry to present their novel and unpublished works in the domain of nonlinear wave dynamics, focusing on both theoretical developments and practical applications. By highlighting advancements in the understanding of integrable systems, ocean waves, fluid mechanics, and the physical mechanisms of nonlinear waves, this Issue aims to foster future research in this interdisciplinary field, bridging the gap between mathematical theory and real-world applications.

Guest Editors

Prof. Dr. Zhen Wang

Prof. Dr. Dengshan Wang

Dr. Xiangyu Yang

Deadline for manuscript submissions

31 December 2025

About the Journal

Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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