

Special Issue

Nonlinear Partial Differential Equations: Exact Solutions, Symmetries, Methods, and Applications

Message from the Guest Editor

Nonlinear partial differential equations are encountered in various fields of mathematics, physics, chemistry, and biology, and numerous applications. Exact (closed form) solutions of differential equations play an important role in the proper understanding of qualitative features of many phenomena and processes in various areas of natural and engineering sciences. Even the special exact solutions that do not have a clear physical meaning can be used as “test problems” to verify the consistency and estimate errors of various numerical, asymptotic, and approximate analytical methods. Exact solutions can serve as a basis for perfecting and testing computer algebra software packages for solving partial differential equations. This Special Issue aims to collect original and significant contributions to both exact solutions and topics related to symmetries, reductions, analytical methods, and different applications of nonlinear PDEs. In addition, this Special Issue may serve as a platform for the exchange of ideas between scientists of different disciplines interested in nonlinear partial differential equations and partial functional differential equations.

Guest Editor

Prof. Dr. Nikolai A. Kudryashov

Department of Applied Mathematics at Moscow Engineering and Physics Institute (MEPhI), 31 Kashirskoe Shosse, 115409 Moscow, Russia

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Mathematics
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
mathematics@mdpi.com

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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.

Editor-in-Chief

Prof. Dr. Francisco Chiclana

School of Computer Science and Informatics, De Montfort University,
The Gateway, Leicester LE1 9BH, UK

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