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Exact Solutions and Numerical Solutions of Differential Equations

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Message from the Guest Editors

Nonlinear differential equations play a significant role in many real-life phenomena, such as in fluid dynamics, optics, acoustics, plasma physics, engineering, and in many other areas of nonlinear science. Thus, it is incredibly vital to find solutions to these equations in order to understand and interpret the structure modeled by these equations.

However, researchers have developed a variety of analytical and numerical techniques that can be employed to solve nonlinear differential equations. Some of the well-known techniques include the Lie symmetry method, the inverse scattering transformation approach, Ansatz methods, multistep methods, finite difference/element/volume methods, and many other techniques in the literature.

This Special Issue will be devoted to unveiling the most recent progress in obtaining analytical and numerical solutions to nonlinear differential equations via various methods and to stimulating collaborative research activities.

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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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