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The development of new methods for the solution of nonlinear ordinary and partial different equations and many other types of equations that model real-life nonlinear phenomena continues to be an active area of research. In recent years, there has been an upsurge in research that is focused on developing improvements of existing solution techniques with the aim of optimising their efficiency and performance.

This special issue provides an opportunity for researchers to publish their results on recently developed solution methods and modification on existing ones. We invite researchers to submit original research articles as well as review articles on new or modified solution methods for solving various models of nonlinear algebraic equations, initial value problems, nonlinear ordinary and partial differential equations, differential algebraic equations, fractional differential equations, and integrodifferential equations.

Potential topics include, but are not limited to:

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- Relaxation iterative methods
- Finite difference and compact finite difference methods
- Spectral collocation methods
- Methods based on differential matrices and operators
- Analytical and semianalytical methods including differential transform method, homotopy analysis method, homotopy perturbation method, optimal homotopy asymptotic method, variational iteration method, and many others
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- Higher order numerical methods

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