

Special Issue

New Trends in Solving Partial Derivative Equations and Nonlinear Integral Equations by Splitting Techniques and Nonlinear Iterative Methods

Message from the Guest Editor

Large systems of ordinary, partial, or stochastic differential equations as well as integral equations can be treated by splitting techniques that decompose the problem, which involves dividing large operators into smaller sub-operators and then reducing the computational time and obtaining additional benefits. After this process, if we have nonlinear parts, we deal with nonlinear solver schemes, such as iterative methods for nonlinear systems in Banach spaces... Topics for this Special Issue include but are not limited to the following:

- Ordinary, partial, or stochastic differential equations, nonlinear integral equations;
- Techniques to decompose a large problem into different parts:
 - Splitting techniques, e.g., AB-splitting, iterative splitting;
 - Time- or spatial decomposition techniques, e.g., Schwarz waveform relaxation, Picard iterations, Domain decomposition;
 - Functional- or exponential splitting methods;
 - Serial and parallel splitting techniques.
- Iterative methods for nonlinear systems
 - Local or semilocal convergence;
 - Computational efficiency;
 - Dynamical study;
 - Steffensen-like methods;
 - Iterative methods with memory.

Guest Editor

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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.

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