



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

Guest Editor:

Prof. Dr. Eulalia Martínez Molada

Instituto de Matemática Multidisciplinar, Universitat Politècnica de València, Valencia, Spain

Deadline for manuscript submissions:
closed (31 October 2020)

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 semi-local convergence

- Dynamical study;



mathematics



- Dynamical study;
- o Steffensen-like methods;
- o Iterative methods with memory.

an Open Access
Journal by MDPI

Editor-in-Chief

Prof. Dr. Francisco Chiclana
School of Computer Science and
Informatics, De Montfort
University, The Gateway,
Leicester LE1 9BH, UK

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.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE (Web of Science), RePEc, and other databases.

Journal Rank: JCR - Q1 (Mathematics) / CiteScore - Q1 (General Mathematics)

Contact Us

Mathematics Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/mathematics
mathematics@mdpi.com
X@MathematicsMDPI