Special Issue

Advanced Mathematical Methods in Electrical Engineering: Theory and Applications

Message from the Guest Editor

In recent years, various numerical methods have been applied in the areas of electrical engineering and renewable energy sources to compute the spatial distributions and/or time variations in physical fields. Common numerical methods include finite element, finite difference, finite volume, boundary element, and least squares methods. Some of these methods, such as the finite element method, are progressively being standardized in electrical engineering. In particular, each of the listed methods can be used to compute electric, magnetic, thermal, or mechanical fields of two or more of these fields. Mathematical models based on one of these numerical methods can be steady-state or dynamic, as well as linear or non-linear. Transient problems of physical fields appear as a special type of dynamic numerical models. Numerical methods can be used to compute individual or coupled fields in and around components of power systems, such as power cables, overhead lines, busbars, electrical machines (generators, power transformers, and motors), photovoltaic panels, and thermoelectric modules, among others. This Special Issue is devoted to all of these problems.

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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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