Special Issue

Computational Optimization with Differential-Algebraic Constraints

Message from the Guest Editor

The simulation models can have the form of differential–algebraic equations (DAEs). They enable us to explicitly express dynamic relations, as well as the physical laws of conservation of mass, energy, and charge. It is worth emphasizing that these relationships are often highly nonlinear. Optimization and design of processes described by nonlinear differential–algebraic equations can require the development of new computational methods and dedicated approaches for numerical simulation. Research work in this particular area is a milestone in the creation of new technological solutions based on accurate numerical simulation models. I would like to encourage you to share your recent research and scientific results in the field of new approaches dedicated to optimization with systems described by differential–algebraic equations and constraints. Case studies of new methods applications in solving urgent engineering problems are also welcome.

Guest Editor

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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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