Special Issue

Optimal Control with Applications and Generalized Derivatives

Message from the Guest Editor

This special issue focuses on recent innovations in optimal control and estimation. Since its inception, optimal control has produced mathematical advancements in multiple disciplines beyond mechanical and electrical engineering. This includes applications in mathematical biology, game theory, finance, exercise science, public health, among several others. Here, both theoretical and computational contributions are welcome. In particular, this issue welcomes contributions that applications in optimal control involving generalized derivatives. Such derivatives manifest themselves in a variety of ways and offer a broader theory compared to the usual classical analysis. This includes difference equations and q-difference equations, which are helpful in constructing models in physics. Time scales calculus in comparison allows researchers to study processes with continuous, discrete, or hybrid measurements. Fractional/fractal type calculus studies processes in which some internal damping is at play. There is also semi-discrete analysis, which offers alternative methods in discretization as well as applications in special functions.

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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