Special Issue

Nonlinear Dynamics and Control Theory

Message from the Guest Editor

Generally, nonlinear systems display complex dynamic behavior such as steady state multiplicity, singularities, instabilities, bifurcations, and complex oscillations. In fact, scientific interest in the study, modeling, and analysis of nonlinear systems with complex behaviors has attracted a lot of attention, and the applications have been growing considerably. There are several conditions that may affect the nonlinear dynamics, for instance, disturbances, singular input perturbations, initial conditions, and time delays. In particular, the analysis techniques of nonlinear dynamics, such as chaotic systems, have had important advances in process engineering, image cryptography, synchronization, stabilization, chaos suppression, secure data transmission, life science, information processing, etc. Control theory has been seeking advanced techniques to achieve high performance in the closed-loop operation of systems, networks, processes, and so on. In fact, there are a wide variety of control structures that have been designed and applied with success such as sliding mode, adaptative, fuzzy logic, observer-based, neural networks, and metaheuristic methods.

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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