

Special Issue

Study on Convergence of Nonlinear Dynamical Systems

Message from the Guest Editors

Achieving convergence is a critical objective in control theory. Control algorithms aim to guide a system towards a desired state, and ensuring convergence ensures that the system settles into the desired configuration accurately and efficiently. For instance, in autonomous vehicle control, convergence guarantees that the vehicle's trajectory converges to the desired path, enhancing safety and precision. In dynamical systems, convergence analysis helps in understanding the long-term behavior of systems. Chaos theory, for example, explores the behavior of chaotic systems and examines whether they strongly depend on initial conditions or eventually converge to certain attractors. In conclusion, the convergence of nonlinear systems is a fundamental concept in dynamical systems and control theory. It underpins the stability and predictability of complex systems, facilitating their control and manipulation. Researchers and engineers continue to explore and develop sophisticated techniques to ensure convergence, enabling advancements in various fields and technologies.

Guest Editors

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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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