

Special Issue

Mathematical Methods Based on Control Theory

Message from the Guest Editors

This Special Issue of *Mathematics* presents a comprehensive exploration of modern systems and control, uniting foundational theories, cutting-edge methodologies, and practical applications. The methodological contributions delve into advanced topics such as contraction theory, hybrid feedback control design, and the integration of optimization and game theory into control frameworks. Further emphasis is placed on the estimation and control of infinite-dimensional systems, as well as innovative approaches to filtering and controlling stochastic systems under uncertainty. The practical relevance of these advancements is reflected in applications addressing critical challenges, such as cyber-physical systems security, fault detection, and resilience. Contributions also focus on decision-making and modeling in diverse fields, including social and life sciences, systems biology, finance, and industrial markets. By blending rigorous theoretical insights with impactful applications, this Special Issue showcases the evolving role of mathematics in advancing systems and control, paving the way for innovative solutions across a wide range of disciplines.

Guest Editors

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About the Journal

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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