Special Issue

Advances in Nonlinear Control Theory Applied to Dynamic Systems

Message from the Guest Editors

During the last decade, the recent advancements in nonlinear control theory have provided innovative solutions for effectively managing the inherent complexities of dynamic systems. New advances in nonlinear control theory address these challenges by developing advanced techniques such as sliding mode control, adaptive control, robust control, and other nonlinear control techniques. These methods permit their application in dynamic systems spanning diverse sectors. Furthermore, developments in computational tools have enhanced the capacity to model, simulate, and implement nonlinear control strategies thus facilitating the design of more efficient and robust dynamic systems. There is a growing tendency to integrate machine learning algorithms and artificial intelligence with nonlinear control in order to enhance system adaptability and optimize real-time performance. These advances underscore the significance of nonlinear control theory in shaping the future of dynamic systems, enabling them to operate with greater reliability in uncertain environments.

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