Special Issue

Intelligent Control of Flexible Manipulator Systems and Robotics

Message from the Guest Editors

The ever-growing utilization of flexible manipulators and robotics in various applications has been motivated by the requirements and demands of industrial automation. The flexural dynamics (vibration) in flexible manipulators and robotics have been the main research challenge in the control of such systems. However, traditional control methods cannot achieve excellent performance in vibration suppression and dynamic responses. In recent years, many intelligent control methods have been proposed and achieved good development, which provides the possibility for the intelligent control of flexible manipulators. Accordingly, this Special Issue seeks to collect theoretical results about the intelligent control of flexible manipulator systems and robotics and experimental studies on their use in real-world applications.

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About the Journal

Message from the Editorial Board

We are just entering the Next Wave of Technology (NWT) where actuators will play the same role as the computer chip did for computers/social media approximately four decades ago. Just in the U.S., production of $1 trillion year of electromechanical systems (vehicles, orthotics, manufacturing cells, freight trains, aircraft, etc.) will be impacted by the NWT, all driven by actuators. Five key trends can be found for the future perspectives: “Performance to Reliability”, “Hard to Soft”, “Macro to Nano”, “Homo to Hetero” and “Single to Multi functional”. We invite papers that primarily impact these economic sectors; those illustrating basic scientific principles are also welcome.

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