Special Issue

Editorial Board Members' Collection Series: Nonlinear Control and Dynamics for MEMS

Message from the Guest Editors

The functionalization of nonlinearities and the design of nonlinear control systems for MEMS have attracted considerable interest in recent years because of their critical applications in the fields of sensors and actuators. For instance, the nonlinear dynamics of vibrating MEMS have been widely investigated in open and closed loops while including innovative and appropriate control methods, thus enabling the enhancement of the targeted performances. This Special Issue will focus on fundamental, experimental and theoretical research related to new designs, methods and control strategies applied to MEMS in order to address the scientific, technical and environmental challenges set by recent industrial demands.

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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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