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Vibration Control Using Electromagnetic Actuators

Guest Editors:

Prof. Dr. Huachun Wu

Prof. Dr. Yefa Hu

Prof. Dr. Feng Sun

Prof. Dr. Satoshi Ueno

Deadline for manuscript submissions:
closed (20 December 2024)

Message from the Guest Editors

Dear Colleagues,

The electromagnetic actuator has the advantages of good controllability, a wide adaptive frequency band, sensitive response, large control force, small volume and weight, and easily controllable complex vibration and noise. It is widely used in power equipment such as energy, ships, aerospace and so on. The recent research literature has provided a huge amount of contributions related to the basic characterization of such devices, whilst the current ongoing research is devoted to various applications of the electromagnetic actuator, addressing specific needs and issues.

The aim of the present Special Issue is to collect original papers concerned with the application of various types of electromagnetic actuators to vibration control, without any limitation on the specific application field. Theoretical, numerical and experimental contributions are welcome. Modern design, modeling, simulation and control concerned with electromagnetic actuators are particularly encouraged, for both numerical and experimental data.

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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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