Special Issue

Nonlinear Active Vibration Control

Message from the Guest Editors

Vibration control can be significant in the optoelectronic performance of sophisticated engineering structures or machines, as it helps in establishing high stability, high pointing accuracy, and high positioning accuracy. The active control of vibration in mechanical systems is an essential and inseparable approach to micro- or nanovibration suppression research. The Special Issue aims to collect research articles on the usage of nonlinearity to improve the performance of active vibration control. We are pleased to invite the research community to submit review or regular research papers on, but not limited to, the following relevant topics related to "Nonlinear Active Vibration Control":

- Nonlinear vibration theory, dynamic modelling, and analysis methods;
- Electromechanical conversion mechanisms and smart materials;
- Passive vibration control approach: isolation, absorption, and damping;
- Piezoelectric/electromagnetic actuators and systems;
- Active metamaterials for vibration control;
- Integrated active and passive vibration control.

Guest Editors

Dr. Zeqi Lu

Prof. Dr. Hailing Fu

Dr. Nan Wu

Deadline for manuscript submissions

closed (30 November 2024)

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Actuators
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
actuators@mdpi.com

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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.

Editors-in-Chief

Prof. Dr. Kenji Uchino
Emeritus Academy Institute, The Pennsylvania State University, University Park, PA 16802, USA

Prof. Dr. Norman M. Wereley
Department of Aerospace Engineering, University of Maryland, 3179J Martin Hall, College Park, MD 20742, USA

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