actuators

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Design, Modelling and Control of Innovative Electromagnetic Actuators

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Deadline for manuscript submissions:
closed (10 December 2021)

Message from the Guest Editors

Dear Colleagues,

Electromagnetic actuators have been mostly used in mechatronics applications when high-speed, high-precision, and contactless effects have been required. Contributions from all fields related to innovative electromagnetic actuators are welcome to this Special Issue, particularly the following:

Electromagnetic actuators: state-of-the-art, digitalization, applications, case studies, project reports;
Design of innovative electromagnetic actuators: optimal design, fabrication, EMC, modeling and simulation, system-identification of dynamics;
High-speed and/or high-accurate and cooperative actuators;
Digital control of electromagnetic actuator: robust, nonlinear, MPC, data-based control-systems;
Design of electromagnetic actuator testbeds for education purpose.

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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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