Special Issue

Actuators and Control of Intelligent Electric Vehicles

Message from the Guest Editors

As main functional components in IEVs, advanced actuators and control algorithms for steering, driving, and braking systems are of great importance. Advanced actuators yield different control frameworks and strategies for IEVs, such as anti-lock brake systems (ABS), autonomous emergency braking (AEB), electronic stability control (ESC), differential braking, active front steering (AFS), active rear steering (ARS), and active suspension systems (ASS). Thanks to advanced control frameworks and strategies, the performance of IEVs can be substantially improved. This Special Issue welcomes papers on any aspect of advanced actuators for IEVs and the design of control algorithms. Topics of interest within the scope of this Special Issue include (but are not limited to):

- X-by-wire actuators for IEVs;
- Advanced actuators for steering, braking, and driving;
- The control of active suspension systems;
- Advanced control algorithms for IEVs;
- Collaborative or shared control between human drivers and IEVs;
- Advanced Driving Assistance Systems (ADAS);
- The decision making, motion planning, and control of IEVs.

Guest Editors

Dr. Peng Hang

Dr. Bo Leng

Dr. Wei Wang

Dr. Qiangqiang Yao

Deadline for manuscript submissions

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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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