Special Issue

Piezoelectric Ultrasonic Actuators and Motors

Message from the Guest Editors

Piezoelectric ultrasonic actuators and motors constitute a classic field that receives long-lasting interest and concerns due to features such as compact size, fast response, high resolution, easy fabrication, no electromagnetic interference, self-locking, etc. They have proved to be promising candidates for applications for micro-robots, optics devices, precision manufacturing, and extreme environments (aerospace, deep sea, high-intensity magnetic). This Special Issue aims to provide a forum for the scholars and industry developers to exchange ideas, recent insights, and achieved results related but not limited to the following topics: • Novel operating principle and design of piezoelectric ultrasonic motors and actuators;

- Multi-DOF ultrasonic motors;
- Modeling and control of ultrasonic motors;
- Applications of ultrasonic motors, especially for special environments;
- Novel methods for reducing wear and improving lifetime.

Guest Editors

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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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