Special Issue

Piezoelectric Devices and System in Micromachines

Message from the Guest Editor

Application fields of piezoelectric actuators are classified into three categories: positioners, motors, and vibration suppressors. The manufacturing of optical instruments (such as lasers and cameras) must be precise and the positioning accuracy for fabricating semiconductor chips must be adjusted using solid-state actuators (at an order of 0.1 m). With regards to conventional electromagnetic motors, tiny motors smaller than 1 cm are often required in office or factory automation equipment and are rather difficult to produce with sufficient energy efficiency. Ultrasonic motors (whose efficiency is insensitive to size) are superior in the mini-motor area. Vibration suppression in space structures and military vehicles using piezoelectric actuators is also a promising technology. This Special Issue will collect articles on the recent developments of piezoelectric and related actuators in terms of new actuator materials, device designs, and drive/control techniques, aiming at self-propelling micromachines with a size of less than 1 cm3. Part of the developments of self-propelling micromachines can be accepted, as long as the content is related to our target.

Guest Editor

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