Special Issue

Sensors and Sensing Networks Based on Smart Materials

Message from the Guest Editor

Smart material technologies have been commonly utilized in a variety of applications in various industries, including automotive company. In these applications, most smart materials are used as actuators, where smart materials can produce control forces to achieve desired performances by external stimuli, such as electric fields. Recently, the development of new sensing technologies utilizing smart materials has started to expand the applications of actuators and sensors as well. More specifically, a special magnetic field sensor using magneto-rheological fluids has been developed based on the resonance phenomenon of a flexible structure, a new frequency-dependent vibration transducer has been developed using the piezoelectric materials and a cost-effective strain sensor using electro-responsive papers. It is noted that the highlighting of sensors and transducers based on smart materials is represented by diverse measures, such as force, moment, torque, displacement, acceleration, strain, magnetic field, electric field, light intensity and temperature.

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Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

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