Special Issue

Challenges and Future Trends of Inertial Sensors

Message from the Guest Editor

Inertial sensors are used in many military and civilian fields, ranging from smartphone to spacecraft. The autonomous, covert, global positioning characteristics make the inertial sensors are irreplaceable. However, as the development of new gyroscope technology, new mathematic model of navigation system, machine learning techniques, and computer vision, the conventional inertial sensors technology faces many challenges. And many new positioning requirements and sensors' data fusion methods should be paid much attention and studied. Some of the challenges include temperature sensitivity, noise, bias instability, and drift. To overcome these challenges, researchers are exploring new technologies such as micro-electromechanical systems (MEMS), fiber-optic gyroscopes, and quantum sensors. These technologies have the potential to improve the performance of inertial sensors and enable new applications.

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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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