

Special Issue

Advanced Sensing, Control, Autonomous and Fault Tolerant Technologies for Satellite Applications

Message from the Guest Editors

There has been an increasing focus on distributed satellite systems, formation flying, and constellation-based space applications—key enablers for Earth observation, communications, and scientific research. With this growth, there is a rising demand for the automation of satellite constellation operations. This includes mission execution, formation and orbit maintenance, collision avoidance through space situational awareness (SSA), and health monitoring systems for fault detection, isolation, and recovery. To meet these demands, new technologies are required to enhance coordination, improve operational safety, optimize mission efficiency, and automate operations with high reliability. However, the expansion of satellite launches has been accompanied by an increase in failure rates. Therefore, it is crucial to complement these emerging technologies with robust Verification and Validation (V&V) test beds to thoroughly evaluate the performance and reliability of these systems.

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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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