Special Issue

Fault-Tolerant Strategies for Intelligent Soft Robotic Systems: Design and Control Perspectives

Message from the Guest Editors

Faults are inevitable in advanced engineering systems. In soft robotics, such risks are amplified by flexible materials and intricate actuation mechanisms, which can render traditional control schemes insufficient when dealing with faults. Consequently, the early integration of fault-tolerant strategies into soft robotic design and control is essential to maintain resilience, reliability, and operational continuity. This Special Issue aims to collect and disseminate the latest research on the design, analysis, and implementation of fault-tolerant strategies in soft robotic systems, with a strong emphasis on aerospace applications and the integration of AI-driven methods for both design and control. Research areas may include (but are not limited to) the following: AI-driven fault detection and fault-tolerant control for soft robots;
Integration of soft robotic systems with aerospace platforms;
Design, fabrication, and advanced materials for fault-resilient soft robotic actuators, especially in aerospace environments;
Modeling, simulation, and real-time validation frameworks tailored to aerospace conditions;
And so on.

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Electronics is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guest-edited by leading experts in selected topics of interest.

Editor-in-Chief

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