Special Issue

Fault Detection and Isolation, Fault Tolerant Control for Autonomous and Transport Vehicles

Message from the Guest Editor

Autonomous vehicles have captured the attention of multi-disciplinary researchers for a number of years. Considering the safety, comfort and convenience of passengers, there is a pressing need to develop more advanced vehicle state estimation, motion control, and diagnosis technologies.

This Special Issue will focus on publishing novel approaches to detecting and localizing the faults of autonomous and transport vehicles. We also encourage submissions on advanced state estimation and vehicle dynamics-based control strategies for autonomous vehicles. Original and innovative research studies from both academic and industrial research teams are welcomed. Potential topics include, but are not limited to:

- vehicle state estimation
- chassis control
- active suspension control
- fault detection and isolation
- fault diagnosis and fault-tolerant control
- vehicle motion control
- active and semiactive vibration control
- smart materials and structures

Guest Editor

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Deadline for manuscript submissions

closed (30 June 2025)

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About the Journal

Message from the Editorial Board

We are just entering the Next Wave of Technology (NWT) where actuators will play the same role as the computer chip did for computers/social media approximately four decades ago. Just in the U.S., production of $1 trillion year of electromechanical systems (vehicles, orthotics, manufacturing cells, freight trains, aircraft, etc.) will be impacted by the NWT, all driven by actuators. Five key trends can be found for the future perspectives: “Performance to Reliability”, “Hard to Soft”, “Macro to Nano”, “Homo to Hetero” and “Single to Multi functional”. We invite papers that primarily impact these economic sectors; those illustrating basic scientific principles are also welcome.

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