Special Issue

Advances in Nonlinear and Adaptive Control of High-Precision Intelligent Machines

Message from the Guest Editor

High-precision position tracking in precision machining, robotics, and industrial automation faces challenges like control saturation, parameter perturbations, and disturbances. Intelligent controller design within advanced adaptive control offers a significant advancement, enhancing system robustness and accuracy, crucial for aerospace, automotive, and manufacturing. This approach addresses limitations of traditional sliding mode control, improving convergence speed and reducing chattering, paving the way for sophisticated, autonomous systems capable of self-improvement. This Special Issue focuses on hybrid adaptive control strategies for high-precision intelligent machines, addressing unknown initial states, parameter perturbations, and external disturbances. We welcome papers related to intelligent electrical machines and their control. Topics include:

- Adaptive control
- Intelligent machines
- Nonlinear control
- Hybrid adaptive control
- Artificial intelligence
- Intelligent control
- Cyber–physical systems
- High-precision servo systems
- Precision engineering

Guest Editor

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Message from the Editor-in-Chief

Machines is an international, peer reviewed journal on machinery and engineering. It publishes research articles, reviews and communications.
Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the length of the papers. Full experimental and/or methodical details must be provided.
There are, in addition, unique features of this journal: Manuscripts regarding research proposals and research ideas will be particularly welcomed; Electronic files or software regarding the full details of the calculation and experimental procedure - if unable to be published in a normal way can be deposited as supplementary material.

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