Special Issue

Mechanical Design of Parallel Manipulators

Message from the Guest Editors

Parallel manipulators have garnered increasing attention in recent decades due to their high stiffness, load-carrying capacity, precision, and dynamic performance. Their closed-loop kinematic structures make them ideal for applications in industrial automation, medical robotics, flight simulators, and high-precision machining. However, the mechanical design of such systems remains a complex and multidisciplinary task, involving challenges in kinematic synthesis, workspace optimization, singularity avoidance, and structural integration. This Special Issue focuses on recent advancements in the mechanical design of parallel manipulators, encompassing innovative architectures, modeling techniques, design optimization, prototyping, and practical applications. We invite high-quality contributions that address both theoretical developments and experimental validations, promoting a deeper understanding of the design principles that underpin high-performance parallel manipulators.

- parallel manipulators
- mechanical design
- kinematic synthesis
- structural optimization
- robotic mechanisms
- singularity analysis
- high-precision robotics

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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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