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Mechanical Principle and Structural Design for Agricultural Robot' Compliant Operation

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Message from the Guest Editors

Agricultural robot that is capable of replacing manual labor for complex farming tasks is considered as a core element of future smart agriculture. When it comes to working with delicate organs of both plants and animals, the ability to perform flexible and non-destructive operations is crucial, and it significantly impacts their operational effectiveness.

Currently, researches on flexible operations of agricultural robot has become a hot topic, involving mechanical models, flexible materials, mechanism design, and motion planning, and servo control. The fusion of multiple technologies for innovative solutions is key to address the challenges associated with achieving flexible operation of agricultural robot. Analyzing the mechanics of non-destructive operations and designing intelligent actuators for human operation replication are effective strategies for overcoming the difficulties of achieving compliant operations. This Special Issue invites researchers to share their valuable research findings and insights on mechanical modeling, mechanical design, motion planning, and servo control in the context of compliant operations for agricultural robots.

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Message from the Editor-in-Chief

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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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