Special Issue

High Speed and Precision Machinery: Kinematics, Dynamics, Vibration and Control

Message from the Guest Editor

To achieve high speed and precision, machines must have light weight but high stiffness, and their natural modes of vibration must be high enough to allow effective control action. High operating speeds also demand consideration of dynamics and vibration nonlinearities, an minimization or preferably elimination of the effects of friction and employment of model-based controls. The design and operation of actuation devices and their power electronics and sensory devices also greatly affect the performance of high speed and precision machinery. Therefore, the development of higher-performance high speed and precision machinery requires expertise and innovation in a wide range of disciplines, including structural materials, structural design, kinematics, dynamics, vibration, control, actuation devices, sensors, and related electronics. The objective of this Special Issue is to provide the reader with a collection of papers presenting the latest research, as well as those reviewing advances in the above areas, in particular those addressing computer-controlled high speed and precision machines.

Guest Editor

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

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