Special Issue

Novel Methods for Structural Analysis and Optimization under Multi-Source Uncertainties

Message from the Guest Editor

In recent years, alongside the growing complexity of engineering structures and the severity of the service environments, uncertainties related to material properties, external loads, boundary conditions, measurement noises, etc., have extensively increased. Uncertainty greatly influences structural safety and applicability, which nevertheless is challenging and expensive to investigate experimentally. Besides, practical cases of complicated computing modeling and limited sample information may also lead to unsatisfactory results in theoretical and validation research. It is therefore necessary to develop advanced methodology and strategy to completely recognize the uncertainties involved when tackling with structural analysis and design optimization issues. The purpose of this Special Issue is to report and discuss recent progress in various aspects of uncertainty-oriented theoretical modeling, numerical methods, and engineering applications in different specific areas, such as aeronautics and astronautics, and mechanical and civil engineering. Original research and review articles on all relative aspects are welcome.

Guest Editor

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Deadline for manuscript submissions

closed (31 October 2023)

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/108053

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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.

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