actuators

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Intelligent Computing in Optimal Design of Actuators

Guest Editor:

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Message from the Guest Editor

Dear Colleagues,

The process of actuator design has to incorporate many technical aspects and restrictions. For such systems, the necessity of taking into consideration interactions between different physical fields is indispensable. Accordingly, the optimal design of actuators requires the consideration of many criteria, which depend on quantities such as actuation force, generated displacement, heat or electrical losses, stress concentration, dynamic characteristics, durability, costs, etc. Such criteria depend strongly on the geometry of the actuator and its working conditions. This leads to the need to solve different optimization tasks, such as: shape optimization, topology optimization, boundary condition optimization, etc...

This Special Issue will be devoted to topics related to the shape, topology, and boundary conditions optimization (single and multiobjective) of actuators by means of artificial intelligence methods such as: artificial neural networks, genetic and evolutionary algorithms, artificial immune systems, hybrid and memetic optimization methods, particle swarm optimizers, and other metaheuristics.

Dr. Adam Długosz
Guest Editor