Special Issue

Computation and Design of Renewable Energy Systems

Message from the Guest Editors

Addressing climate change by achieving country-wide net-zero emission energy supply and vehicle fleets within 30 years presents both a tremendous engineering challenge and innovation opportunity. A significant part of this energy revolution is designing structures for power generation and transportation that are lightweight, durable, power-efficient, and cost-efficient. Vibration response is a critical element of structural design and overall machine performance. This Special Issue focuses on the role of modeling and computation in understanding the behavior of and optimizing designs for machine vibration. Vibrating machine design and operation challenges encompass cost-performance tradeoffs and the need for adaptability to time-varying environmental characteristics. Computational techniques enable fundamental understanding and optimization of complex system vibrations. These computational approaches need to balance model fidelity with computational efficiency, sufficiently explore structural, and controller design spaces during the design stage, and reliably monitor machine health during the operation stage. For details please visit https://mdpi.com/si/80057

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