Special Issue

Modeling and Analysis of Energy Harvesters 2021

Message from the Guest Editors

Vibrational energy harvesting was invented to provide a power supply to small monitoring devices from ambient vibrations. The development of this field was stimulated by increasing the demands for the powering of portable electronics, and extending the battery life. Proposed solutions consisted of a mechanical resonator and coupled transduces changing the mechanical energy into electrical power. In the last decade, energy harvesting has undergone spectacular changes through the application of nonlinear methods, in order to broaden the frequency input. Finally, new devices are not limited to the linear resonance frequency; they offer not only frequency range broadening via inclinations of the resonance curves, but also varieties of new nonlinear resonances for large enough inputs. This Issue will provide the modelling and analysis of nonlinear energy harvesting solutions, and feature their benefits by considering systems from a nano-scale to macro-scale.

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Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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