



Modeling and Analysis of Energy Harvesters

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Message from the Guest Editors

Dear Colleagues,

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 transducers 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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