The influence of potential energy shape on the energy spectrum and total electrical efficiency of the energy harvester

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ABSTRACT

We have studied the electrical power frequency spectrum and the total electric power harvested by the device with electromagnetic transducer. We compared the results for both the linear and nonlinear case. In the nonlinear case we have found satellite peaks in the harvested power spectrum, which were attributed to the characteristic features of the potential. The total electric power generated by the device is larger in the nonlinear case only for some base acceleration values.