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Advances in Electronics Engineering

Advances in Electronics Engineering pp 303-313 | Cite as

The Technological Implications of Using MEMS-Based Generators as a Replacement to Batteries in Electronic Devices—A Short Review

Authors

Authors and affiliations

Timilehin SanniFelix A. IsholaEmail authorOlumide A. TowojuEsther T. Akinlabi

Timilehin Sanni

1

Felix A. Ishola

2Email author

Olumide A. Towoju

3

Esther T. Akinlabi

1.Electrical and Electronic Engineering DepartmentCovenant UniversityOtaNigeria

2.Mechanical Engineering DepartmentCovenant UniversityOtaNigeria

3.Mechanical Engineering DepartmentAdeleke UniversityEdeNigeria

4.Department of Mechanical Engineering ScienceUniversity of JohannesburgJohannesburgSouth Africa

Conference paper

First Online: 17 December 2019

Part of the Lecture Notes in Electrical Engineering book series (LNEE, volume 619)

Abstract

Batteries had been widely used as the power source for remote electronic devices, but the method of generating energy from the environment had been with a lot of prospects. To ensure constant power supply and avoid complexity of changing batteries for wireless electronics and sensors, especially in the case of usages in remote areas, self-energy generating devices have become a necessity. The authors briefly review alternative to batteries; options such as electrostatic generation, dielectric elastomers and piezoelectric materials which are considered very promising for their capacity to change stains in the material into electrical vitality and be incorporated into electronic gadgets. The paradigm shift in the technological world towards producing electronic devices with focus on reduction in size, cost and energy consumption have constantly considered the generator based on Micro-electro-mechanical systems (MEMS). This article highlights the impacts and challenges of using MEMs based generators for providing power sources in small wireless sensor nodes, in place of batteries.

Keywords

MEMS Remote energy Batteries Wireless sensors

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Cite this paper as:

Sanni T., Ishola F.A., Towoju O.A., Akinlabi E.T. (2020) The Technological Implications of Using MEMS-Based Generators as a Replacement to Batteries in Electronic Devices—A Short Review. In: Zakaria Z., Ahmad R. (eds) Advances in Electronics Engineering. Lecture Notes in Electrical Engineering, vol 619. Springer, Singapore

First Online 17 December 2019 DOI https://doi.org/10.1007/978-981-15-1289-6_28 Publisher Name Springer, Singapore Print ISBN 978-981-15-1288-9 Online ISBN 978-981-15-1289-6 eBook Packages Engineering