SeMPowisko 2024



Contribution ID: 54

Type: Talk

Parametric Resonance in Energy Harvesting

Friday 19 April 2024 17:05 (20 minutes)

With the growing popularity of miniature devices, the issue of their power supply arises. Batteries require replacement and have low energy density, while conducting electrical connections can be problematic or impossible.

One solution could be the implementation of Energy Harvesters, devices that harness vibrations from the environment or electromagnetic fields from other devices for power. This could enable the powering of wearable devices, the utilization of numerous sensors, for instance, in bridges for monitoring strength, or in miniature biomedical devices.

This presentation will focus on Vibrational Energy Harvesters and the application of Parametric Resonance as a means to increase harvested energy.

My talk is based on Caldwell, Nicholas B., "Exploiting the Principal Parametric Resonance of an RLC" Circuit for Vibratory Energy Harvesting"" (2016). All Theses. 3041. https://tigerprints.clemson.edu/all_theses/3041

Field

Physics and Astronomy

Length

Short 15 min

Author: ZANTOWICZ, Wiktor

Presenter: ZANTOWICZ, Wiktor