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Performance Assessment in a Voice Coil Motor for Maximizing the Energy Harvesting with Gait Motions

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Abstract : In this study, an experimental approach is established to assess the performance of different beams coupled to a Voice Coil Motor (VCM) with the aim to maximize mechanically the energy harvesting in the inductive transducer that is included on it. The VCM is extracted from a recycled hard disk drive (HDD) and it is adapted for carrying out experimental tests of energy harvesting. Two individuals were selected for walking with the VCM-beam device as well as to evaluate the performance varying two parameters in the beam; length of the beams and a mass addition. Results show that the energy harvesting is maximized with specific beams; however, the harvesting efficiency is improved when a mass is added to the end of the beams.

Keywords : hard disk drive, energy harvesting, voice coil motor, energy harvester, gait motions
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