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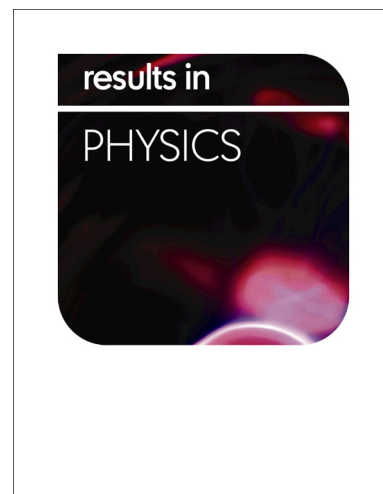
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Fabrication and characterization of miniature nonlinear piezoelectric  
harvester applied for low frequency and weak vibration

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### Abstract

In order to collect energy from human activities, piezoelectric energy harvesters should have a flexible structure, low resonant frequency and wide frequency bandwidth. In this paper, the fabrication and characterization of a metal-based  $\text{Pb}(\text{Zr},\text{Ti})\text{O}_3$  (PZT) bimorph thick film energy harvester. PZT thick films were deposited on cantilever-shaped titanium (Ti) substrate via a dip-coating process. The electrical properties of the PZT films sintered at different temperatures were investigated. **The nonlinear piezoelectric energy harvester has the following advantages: it is suitable for low frequency, weak vibration, and wide frequency bandwidth.** The maximum open-circuit voltage of the piezoelectric

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