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Energy harvesting based on nanogenrtor non-ferroelectric material

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Over the past years, there are a considerable knowledge and continuous striving toward scavenge a sustainable power from piezoelectric harvesters. The piezoelectric harvesters provide a potential solution to self-power wireless sensor devices by converting the waste mechanical energy to useful electrical energy. Among the piezoelectric materials, non-ferroelectric materials (or harvesters that have very small remnant polarization) are more cost effective compared to ferroelectric materials because they can be prepared without a polarization process. In this study, a novel non-ferroelectric nanogenerator was manufactured Zinc oxide nanogenerator. It was demonstrated that the increment of conductivity via adding a conductive P-type layer such as Na2TiO3. It is well known that, the Na2TiO3 plays an essential role in increasing the permittivity of the nonferroelectric nanogenerator and hence improved the generated power density. The performance of the device was studied experimentally; the maximum generated voltage was up to 1 V.

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