# Spherical magnet shakes to store energy

& nbsp;A spherical electromagnet vibration energy harvester is designed to harvest multi-directional vibration energy. Based on 2D Halbach array model, a novel sphere Halbach array is designed, ...

This paper considers an electromagnetic energy harvester consisting of a tube with two fixed magnets and two coils and containing a floating free-to-move dumbbell structure with two ...

In this work, a spherical EMG (S-EMG) with the magnet attached to a pendulum is proposed for energy harvesting using electromagnetic effect. The spherical structure of the device ...

The harvester uses a spherical magnet as a moving magnet, combining the restoring force of limit spring, attractive magnetic force and gravity to achieve bistability to increase power ...

To demonstrate the capability of S-MEG for ambient vibration energy harvesting, a 220 uF commercial capacitor was successfully charged to 2 V within 25 s, sustainably driving wearable bioelectronics for ...

We design the spherical electric power generator consisting of the thin rigid spherical shell constraining the motion of the smaller perfectly spherical permanent magnet inside it and...

This study presents a thorough analysis of core@shell nanoparticles composed of hard and soft magnetic materials, revealing significant improvements in their magnetic properties, ...

Neodymium magnetic spheres - versatile and practical Neodymium magnetic spheres are versatile everyday helpers. Thanks to their strongly adhering neodymium magnet surface, they are ideal as ...

In recent years, battery-free self-powered sensing has attracted much attention. However, effective energy harvesting over wide frequency bandwidth is still a great challenge. This paper explores a ...

In this study, a spherical magnet array is designed with magnetic powder and hyper-elastic rubber for multi-dimensional tactile perception. Besides, a highly interpretable and calculable method is ...

This paper presents a novel multi-stable broadband rotational energy harvester using magnetic coupling and a rolling sphere to harness ultra-low frequency motions. A spherical magnet, placed in a circular ...

This paper explores a bistable vibration energy harvester. The harvester uses a spherical magnet as a moving magnet, combining the restoring force of limit spring, attractive ...

To sustainably power ocean sensors by harvesting ocean wave energy, an annular electromagnetic generator

(A-EMG) based on the principle of Faraday electromagnetic induction is ...

A spherical magnet is utilized to not only trigger the PEH to function, which endows the PEH with bi-directional energy- harvesting capability, but also induce the coil to generate electricity, achieving the ...

We report a theoretical study of the high-energy product (| B H | max) of spherical core@shell nanoparticles that combine high coercivity core materials (such as Nd 2 Fe 14 B or CoPt) with high ...

The basic design employs a spherical, unidirectionally magnetized permanent magnet (NdFeB) ball that is allowed to move arbitrarily in a spherical cavity wrapped with copper coil windings.

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