

By integrating piezoelectric and triboelectric nanogenerators with supercapacitors, these systems efficiently convert ambient mechanical energy such as vibrations, motions, and stresses ...

To satisfy the needs of next-generation electronic devices for sustainable working, conspicuous progress has been achieved regarding the development for nanogenerator-based self-charging energy ...

The fabrication technologies of nanomaterials, device designs, working principles, self-charging performances, and the potential application fields of self-charging storage devices are presented and ...

Here, a self-charging flexible supercapacitor (PSCFS) is successfully realized that can harvest sporadic mechanical energy, convert it to electrical energy, and simultaneously store power.

The high performance and rapid response of the L<sub>CuMO</sub>/PVDF-based nanogenerator makes it an excellent sensing technology for self-monitoring and decision-making in cricket and other ...

Flexible self-charging power sources harvest energy from the ambient environment and simultaneously charge energy-storage devices.

Triboelectric nanogenerators (TENGs), a common type of energy harvester, generate alternating current-based, irregular short pulses, posing a challenge for storing the generated ...

Triboelectric nanogenerators (TENGs) have emerged as efficient mechanical-energy harvesters with advantages--simple architectures, broad material compatibility, low cost, and strong ...

In this study, we propose a new strategy that leverages high-frequency response to develop efficient chargeable TENG-supercapacitor (SC) hybrid devices. A high-frequency SC was fabricated using ...

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