Patent Search

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Abstract:

The invention pertains to magnetic natural fiber composites tailored for energy harvesting applications. By integrating magnetic particles uniformly within a natural fi the invention creates a composite material that leverages the inherent advantages of natural fibers, such as flexibility and sustainability, with the functional attributes materials. The composite is designed to harvest energy from various ambient sources, including mechanical vibrations, thermal gradients, and solar radiation, and co usable electrical power. The innovative manufacturing process ensures homogeneous dispersion, long-term stability, and environmental compatibility. With potential in green energy solutions, portable electronics, wearable technology, and more, the invention represents a significant advancement in the field of energy harvesting, efficient and eco-friendly approach to renewable energy utilization. Accompanied Drawing [FIGS. 1-2]

Complete Specification

Description:[001] This invention relates generally to the fields of material science, renewable energy, and electromagnetism. More specifically, it pertains to the development and application of magnetic natural fiber composites for the purpose of energy harvesting. These innovative composites incorporate magnetically res materials into natural fibers, combining the sustainability of renewable resources with the efficiency and functionality of magnetic materials.

[002] They are particularly designed for converting ambient energy sources, including but not limited to, mechanical vibrations, thermal energy, and solar radiation, usable electrical power. This makes the proposed invention particularly relevant for green energy solutions, portable electronics, off-grid applications, and sensor n amongst others.

BACKGROUND OF THE INVENTION

[003] The following description provides the information that may be useful in understanding the present invention. It is not an admission that any of the informati provided herein is prior art or relevant to the presently claimed invention, or that any publication specifically or implicitly referenced is prior art.

[004] Further, the approaches described in this section are approaches that could be pursued, but not necessarily approaches that have been previously conceived pursued. Therefore, unless otherwise indicated, it should not be assumed that any of the approaches described in this section qualify as prior art merely by virtue c inclusion in this section.

[005] The growing demand for renewable energy sources and sustainable materials has spurred research and development into new methods for energy harvestin has become an urgent priority due to the increasing recognition of the environmental impact of non-renewable energy sources and the necessity for more diverse, sustainable, and low-impact energy solutions. Energy harvesting, or the conversion of ambient energy into usable electrical power, is an area of significant interest

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