Carbon fiber solar energy storage device

1. Introduction. Flexible and portable electronic devices have been extensively studied for a wide range of applications in solar cell [1 - 21], lithium ion battery [22, 23], ...

Compared with commonly used fiber electrodes, such as metal wire, conductive polymer fiber, and metal coated artificial/natural fiber, aligned carbon nanotube (CNT) fibers have been ...

Abstract Efficient solar energy utilization technologies are expected to promote the development of a carbon-neutral and renewable energy society. ... designed a highly efficient integrated ...

Thermal energy storage (TES) techniques are classified into thermochemical energy storage, sensible heat storage, and latent heat storage (LHS). [1 - 3] Comparatively, LHS using phase ...

The fiber solar cells consisting of a polymeric active layer sandwiched between steel and carbon electrodes have potential in the manufacturing of low-cost, liquid-free, and ...

DOI: 10.1002/aenm.201401438 textiles as electrodes. In particular, this supercapacitor has been further integrated with a photoelectric conversion function to form a novel, self-powering ...

1 Introduction. The growing energy consumption, excessive use of fossil fuels, and the deteriorating environment have driven the need for sustainable energy solutions. [] Renewable ...

This comprehensive book covers flexible fiber-shaped devices in the area of energy conversion and storage. The first part of the book introduces recently developed materials, particularly, various nanomaterials and composite ...