

Solar container battery carbon-based capacitor group





Overview

What is a solar cell integrated supercapacitor?

Solar cell integrated supercapacitors or photosupercapacitors have attracted interest among researchers in recent years due to their potential application in smart electronics. ¹⁴ For the construction of a photosupercapacitor, the solar cell is used for energy conversion and the supercapacitor is for energy storage.

What is supercapacitor-battery hybrid energy storage?

Supercapacitor-battery hybrid (SBH) energy storage devices, having excellent electrochemical properties, safety, economical viability, and environmental soundness, have been a research hotspot in the current world of science and technology.

What is a solar energy conversion device (solar cells)?

The energy conversion device (solar cells), when integrated with energy storage systems such as supercapacitors (SC) or lithium-ion batteries (LIBs), can self-charge under illumination and deliver a steady power supply whenever needed.

What is a metal ion based hybrid capacitor?

In general, metal ion-based hybrid capacitor shows high energy and power density, excellent rate performance, remarkable cyclability, and tremendous application potential for energy storage, which integrate the merits of SCs and batteries.



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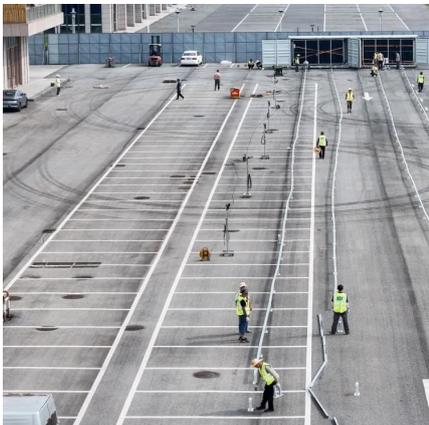


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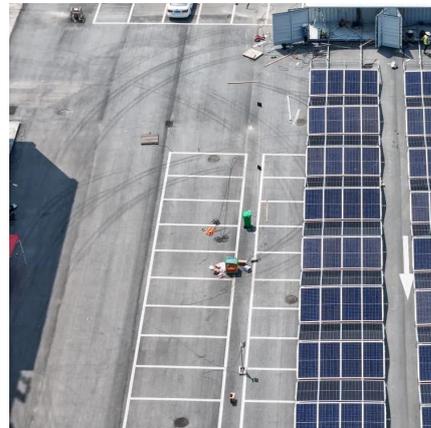


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Introduction Results and Discussion Conclusion Experimental Author Contributions Acknowledgements In this work, we have presented a proof-of-concept integrated solar battery device based on the earth-abundant carbon nitride K-PHI, which serves as both light absorber and charge storage (photo)anode. Photogenerated holes in K-PHI are shuttled via a HTM (F8BT) to the HSM (PEDOT-PSS) via an interfacial hole transfer cascade. This device can work as See more on pubs.rsc Springer

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