

OverviewBackgroundHistoryDesignStylesTypesMaterialsElectrical parametersA supercapacitor (SC), also called an ultracapacitor, is a high-capacity capacitor, with a capacitance value much higher than solid-state capacitors but with lower voltage limits. It bridges the gap between electrolytic capacitors and rechargeable batteries. It typically stores 10 to 100 times more energy per unit mass or energy per unit volume than electrolytic capacitors, can accept and deliver charge much faster than batteries, and tolerates many more charge and discharge cycles than rechargeable batteries.

In newly published research, scientists propose a new model for studying supercapacitors, giving other researchers a better way to study how a different battery paradigm ...

By creating a new graphene material, engineers were able to facilitate the movement of ions and increase the power and energy capacity of their supercapacitors.

Here the author, focusing on supercapacitor devices, discusses the most challenging aspects to be considered to deliver practical innovation from fundamental research.

In a paper recently published in Nature Communications, the research team introduced a new type of carbon-based material that enables supercapacitors to store as much energy as ...

New supercapacitor technology could lead to increased safety, quicker charging, and longer-lasting batteries.

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In a study published today in Nature Communications, the team reveals a new kind of carbon-based material that allows supercapacitors to store as much energy as traditional lead-acid ...

Engineers from Australia's Monash University have reportedly made a significant breakthrough in supercapacitor technology that they say could pave the way for next-generation applications in electrified ...

Electrochemical capacitors, which are commercially called supercapacitors or ultracapacitors, are a family of energy storage devices with remarkably high specific power compared with other ...

Engineers unveil graphene material that powers supercapacitors with rapid charge and high energy density. Engineers have achieved a breakthrough that could redefine the future of ...

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