

Special Issue

High Energy Density Supercapacitors: Acquisition, Characterization, and Application

Message from the Guest Editors

The aim of this Special Issue is to publish high-quality research papers addressing the current and future advances in the development, characterization and application of supercapacitors. Supercapacitors are materials that exhibit high power densities but low energy densities; thus, to further improve the energy densities of supercapacitors, it is important to design and synthesize new electrode materials. Also, regarding ideal energy storage systems, in addition to energy/power characteristics, long-term stability is crucial for their specific application. Potential topics: Methodologies for improving the energy density of supercapacitors, such as: doping the active electrode with pseudocapacitive materials, transition metal oxides/rare earths or doping with electronically conducting polymers; the manufacture of three-dimensional (3-D) structures, etc. Obtaining, characterizing supercapacitors and applying their special properties by integrating them into wearable or implantable biomedical devices, rechargeable sensors, military applications, automobiles, emerging technologies, etc.

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Deadline for manuscript submissions

15 March 2025



Batteries

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CiteScore 4.0



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