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Reference Module in Earth Systems and Environmental Sciences

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Nanocellulose-Based Supercapacitor

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Abstract

Nowadays, the concerns over energy development and environmental issues have triggered global attention to the development of sustainable energy storage systems based on green resources. In this scenario of sustainable resources, nanocellulose has emerged as promising nanomaterial attributes to its remarkable characteristics such as excellent stability, eco-friendly, availability and facile synthesis that serve this material as an ideal candidate for energy storage applications. Herein this book chapter highlights a brief introduction about nanocellulose followed by various synthesis techniques to enhance the electrochemical performance for supercapacitor-based applications. Finally, this chapter summarises the previous developments in the field of nanocellulose and provided insight towards future prospects and challenges of nanocellulose in the field of the supercapacitor.

Keywords

Fabrication; Nanocellulose; Supercapacitor; Synthesis

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