

## Nanostructured Manganese Oxides in Supercapacitors

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### **Abstract:**

The development of energy storage systems (ESSs) comes as a crucial factor when it comes to addressing the problem of energy in the world due to the rapid development of the global economy, the depletion of fossil fuels and the increase of environmental pollution. Hence there is an urgent need for clean, cheap, efficient and sustainable sources of energy, as well as new technologies associated with energy storage and conversion. The electrochemical capacitor (EC), also known as ultracapacitor or supercapacitor, is an energy storage device that utilises two closely spaced layers composed of two opposing charges to store energy which is used to power hybrid electric vehicles, portable electronic equipment and other devices.