

High Performance Supercapacitor Using Catalysis Free Porous Carbon Nanoparticles

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ABSTRACT

Very high supercapacitance values are obtained using catalyst free porous carbon nanoparticles (PCNs). The obtained PCNs have a porous structure with fine particles 35 nm in size. The specific capacitance of PCNs is 343 F g^{-1} and 309 F g^{-1} at 5 mV s^{-1} and 0.06 A g^{-1} , respectively. PCNs shows a high cyclic stability of about 90% and high columbic efficiency of 95% over 2500 cycles at 1 A g^{-1} . Impedance spectra show low resistance of PCNs, supporting their suitability for supercapacitor electrode application

KEYWORDS: Carbon nanoparticles, Supercapacitor, Porous, Catalyst

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