**Compact and Stable Thin Films of MnO2 Nanoflakes grown by Physical vapour deposition for Supercapacitors**

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 This paper reports an efficient method for growing MnO2 nanoflakes by reactive magnetron sputtering for supercapacitor applications. The physical vapor deposition technique presented in this work is simple, unique, without chemical huge, direct and economically viable route for growing nanoflakes for supercapacitor electrodes. Here, MnO2 nanoflakes were directly deposited on the steel cold finger substrate at liquid nitrogen temperature by using reactive magnetron sputtering technique. The MnO2 nanoflakes based supercapacitors three electrode test delivered high capacitance 374 F g-1 at current density 1.1 A g-1.The supercapacitor symmetric device delivered a high capacitance (64 Fg-1 at 1.17 Ag-1), good cycling ability (85.59% after 1500 cycles), along with high energy density (ED) and power density (PD), respectively.