



EXPANSÃO DAS CAMADAS
GRAFÊNICAS DA GRAFITE POR
ESFOLIAÇÃO ELETROQUÍMICA
VISANDO APLICAÇÃO COMO
ELETRODOS EM
SUPERCAPACITORES

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Abstract

Graphite is known as an excellent current collector and, therefore, commonly applied as electrode material. Due to its structure formed by graphene sheets has increased the interest by surface exfoliation methods for increasing the electroactive area by expanding these layers. Based on this interest, this work aims to study the morphological and structural variation of graphite plates (PG), using the anodic electrochemical exfoliation method to apply as a current collector presenting higher electroactive surface area. As exfoliated graphite plates (PGE) were analyzed by SEM-FEG and Raman and X- Ray Diffraction Spectroscopy. The electrodes were submitted to electrochemical tests for characterization of the electrode/electrolyte interface s. The results pointed to the formation of graphite nanotubes, besides increase the material disorder without significant crystalline alterations. PGE has interesting potential in the development of high-performance supercapacitors.

Key words : Esfoliação eletroquímica, placa de grafite, eletrodo modificado, supercapacitor, grafeno.