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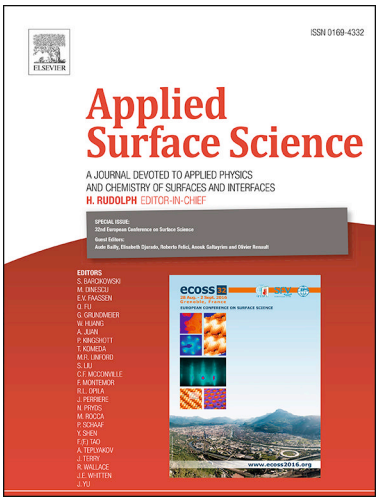

Full Length Article

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Synthesis of Porous Co_3O_4/C Nanoparticles as Anode for Li-ion battery Application

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Abstract: The porous Co_3O_4 with electrospun carbon (Co_3O_4/C) was synthesized simply through annealing the Co-based metal-organic-framework/polyacrylonitrile (ZIF-67/PAN) templates. The samples were characterized by X-ray diffraction (XRD), scanning electronic microscopy (SEM) and Brunauer–Emmett–Teller (BET) techniques. The content of electrospun carbon in Co_3O_4/C was tested by thermogravimetric analysis (TG). The Co_3O_4/C not only shows a remarkable capacity of 1024.1mAhg^{-1} after 100 cycles but also behaves superior rate capability. The superior electrochemical properties could be attributed to the electrospun carbon, which serves as a buffer layer to slow down the volumetric stresses and provides conductive paths for fast Li^+ diffusion and easy electric charge transfer. Therefore, superior

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