
E-S02

Electrochemical Studies of LiFePO_4 Thin Film Electrodes Prepared by Pulsed Laser Deposition

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There has been considerable interest in LiFePO_4 as an alternative cathode material in Li-ion cells due to cost, safety and stability concerns. The drawbacks are the low capacities achievable at even moderate discharge rates, associated with the limited electronic and ionic conductivities and slow interface phase movement. Much can be learned regarding the performance of low conductivity materials when they are in thin film form. Thin films comprise a simpler system without complications from carbon and binder that are necessary in porous electrodes. This talk will describe preparation of LiFePO_4 thin films with a pulsed laser deposition technique, and electrochemical characterization as functions of carbon content and film thickness.