Short Communication

Nano Iron Oxides/Sisal Fiber Carbons Composites as Anode Materials for Lithium-ion Batteries

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A new microporous carbon was obtained by pyrolysis of sisal fibers. And nano iron oxides/sisal fiber carbons composites were synthesized by hydrothermal method. The structure of the composites were characterized by XRD and SEM, and the influence of hydrothermal temperature on the electrochemical performance of the composites was studied by cyclic voltammetry and constant current charge and discharge tests. The results show that the structure of nano iron oxides varied with hydrothermal temperatures. As anode materials for lithium-ion batteries, the composites showed a wonderful synergistic effect on the electrochemical performance, and the composites prepared at 120 °C consisted of α -FeOOH and α -Fe₂O₃ mixture phases and exhibited the highest reversible specific capacity and the best cycling stability.

Keywords: Iron oxides, sisal fiber carbons, composites, hydrothermal, anode materials

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