Electrochemical Performance of Carbon derived from Bamboo Shoot as Anode Materials for Lithium-ion Battery

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Renewable bamboo shoot is carbonized and used as anode material for lithium ion battery to study its electrochemical properties. The average pore diameter of the carbon micropores of the bamboo shoot powder is 19-20 nm, the specific area is as high as 1126.18 m²/g and can be controlled by the carbonization temperature. When the current density is 1.0 Ag⁻¹, the unit capacitance is 575 mAh/g and the specific capacity retention rate is 78.2% after charging and discharging 50 times. After processing, bamboo shoot carbon has the equivalent specific capacity of petroleum carbon materials for market sale, which provides a new idea for the development and utilization of bamboo industry.

Keywords: Bamboo shoot, Carbonization, Anode Materials, Electrochemical properties

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