Short Communication

Pitaya-Like Carbon Nanofiber Sulfur Composites as Promising Cathode Materials for High-Performance Li-S Batteries

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First, carbon nanofibers were prepared by electrospinning. Then, a CN/S composite was prepared by melting elemental sulfur via high-temperature heat treatment. Using the prepared CN/S composite as the cathode material, a lithium sulfur battery was made from the cathode material. The initial discharge capacity of the CN/S battery reached 1116 mAh g⁻¹, the utilization ratio of sulfur was 73%, and the specific capacity was kept at 810 mAh g⁻¹ after 100 cycles. The electrochemical performance of the CN/S composite was significantly higher than that of the elemental sulfur. It is shown that the lithium sulfur electricity can be effectively promoted by the CN/S composite.

Keywords: Carbon nanofiber, CN/S composite, cathode, Li-S battery.

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