Docket #: S09-182

Porous carbon-sulfur for ultrahigh capacity lithium ion batteries

Stanford researchers have developed a nanostructured rechargeable battery consisting of a lithium sulfur based cathode and a silicon nanowire anode. The lithium sulfur is made electrochemically active by incorporating it within the pores of CMK-3 mesoporous carbon in the cathode. Silicon nanowire anodes provide high capacity, low reaction potential and moderate cycle life. This technology offers a safe, high energy density, light-weight battery.

Applications

- Lithium ion batteries
- Rechargeable batteries

Advantages

- Enable sulfur materials and produce high capacity cathodes

Publications

- Y. Yang, M.T. McDowell, A. Jackson, J.J. Cha, S.S. Hong, and Y. Cui. "New Nanostructured Li2S/Silicon Rechargeable Battery with High Specific Energy", *Nano Letters*, February 25, 2010.

Patents

- Published Application: 20110200883

- Issued: 9,012,087 (USA)

Innovators

- Yi Cui
- Yuan Yang
- Matthew McDowell
- Ariel Jackson

Licensing Contact

Jon Gortat

Licensing & Strategic Alliances Director for Physical Science

Email