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Process For Electrodepositing Manganeese Oxide With Improved Rate Capabilities For Electrical Energy Storage

Tech ID: 28783 / UC Case 2017-590-0

BRIEF DESCRIPTION

The invention is a novel method for enhancing the energy, power and performance of lithium ion batteries. It applies a new process for electrodepositing Manganese Oxide in a way that improves the electrical properties as well as the rate at which the battery can operate. Using this method, the energy storage capabilities is boosted significantly; making it faster, more reliable and enabling various applications to become more dependent on electric/battery solutions.

FULL DESCRIPTION

This invention proposes a new process for enhancing the energy storage capabilities of an important Li+ insertion metal oxide: MnO2. This process enables MnO2 to function at a higher rate, and for thicker coatings, enhancing the energy and power of batteries and capacitors. This technology, along with a related technology (please see Related Case 2016-760) allows for nanowire-based batteries and capacitors with extremely long cycle lifetimes (over 200,000 recharging cycles) without loss of capacitance.

SUGGESTED USES

- Electronics
- · Electric cars
- · Phones/tablets/laptops (Portable devices)
- Batteries
- · Capacitors

ADVANTAGES

- · Electrical conductance is increased by an order of magnitude
- · Higher storage capacity
- · Enhanced performance rate/speed
- · Faster, more reliable battery solution

PATENT STATUS

Country	Туре	Number

Dated

Case

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RELATED CASES

2017-590-0

10/27/2020

2017-590

STATE OF DEVELOPMENT

Demonstrated at a proof of concept level, with initial results reported.



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