The University of Texas Rio Grande Valley
Office of Technology Commercialization

Lithium Battery Cathode

This invention developed an advantage over nanoparticle coated cathode materials using a fiber-based microstructure. A fibrous structure for the cathode prevents the degradation of the cathode material.

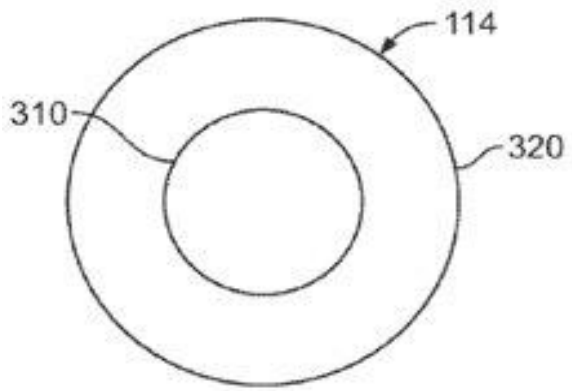
Problem

Several existing cathode materials for Lithium-ion batteries have performance limits and degradation due to reactions of the cathode material with the electrolyte forming a surface electrolyte interphase.

Solution

A fibrous structure for the cathode maintains the short diffusion length for Li transport into/from the cathode. This structure facilitates transport of Li ions but not the reactions that cause the degradation of the cathode material. This also prevents capacity cycling losses over the lifetime of the battery.

Cross section of a cathode fiber



Value Proposition

This invention is a fibrous structure for Lithium battery cathode which prevents premature degradation of cathode, battery capacity loses and has no reactions with the cathode. It is easy to manufacture and relatively prolongs the lifetime of the Lithium battery.

Competitive Advantages

- Ease of manufacturing
- Non-toxic
- Longer lifetime of the battery

Status of Development

- Prototyping stage

IP Status

- Patent Grant US10411251B2
- Licensing available

For further information regarding this Technology please contact:
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