All-vanadium liquid flow battery carbon felt

Aiming at the shortcoming of low specific surface area of the most commonly used carbon felt (CF) electrodes in vanadium flow battery (VFB), there are mainly two approaches to ...

For developing the VRFB negative electrode, tungsten/bismuth-based oxides (W-Bi) were solvothermally synthesized and grown on carbon felt (Wx-Biy@CF) using different initial W/B.

This article will mainly review the surface activity improvement process and related research of the all-vanadium liquid flow battery carbon felt electrode that are currently widely cited.

Herein, we, for the first time, successfully prepared N, O co-doped carbon felt (CF) by plasma treatment as electrodes in all-vanadium redox flow batteries (VRFB).

The results showed that the all vanadium flow battery containing boron doped carbon felt electrode exhibited higher energy efficiency (80.56%) than the original carbon felt battery (63.40%) at a current ...

The modified carbon felt exhibits higher energy efficiency (EE) and voltage efficiency (VE) in a single cell VRFB test at the constant current density of 160 mA cm-2, and also maintains good ...

By utilizing cobalt phosphide (Co 2 P) to modify the carbon felt (CF), the resulting Co 2 P-CF composite demonstrates improved electrochemical activity toward the redox reactions of VO 2+ ...

A high-performance carbon felt electrode for all-vanadium redox flow battery (VRFB) systems is prepared via low-temperature atmospheric pressure plasma treatment in air to improve the ...

Up to now, the most used materials for electrode are carbon or graphite felt (CF/GF), carbon paper (CP) and carbon cloth (CC), owing to its properties of good conductivity, excellent corrosion resistance ...

3D graphene-nanowall-decorated carbon felts (CF) are synthesized via an in situ microwave plasma enhanced chemical vapor deposition method and used as positive electrode for ...

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