

Copper Oxide Doped Carbon Catalyst for Anodic Half-Cell of Vanadium Redox Flow Battery

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Abstract : This paper presents a study on synthesizing and characterizing a Copper oxide doped Carbon (CuO-C) electrocatalyst for the negative half-cell reactions of Vanadium Redox Flow Battery (VRFB). The CuO was synthesized using a microreactor. The electrocatalyst was characterized using X-ray Diffraction (XRD), Fourier Transform Infrared Spectroscopy (FTIR), and Field Emission Scanning Electron Microscopy (SEM). The electrochemical performance was assessed by linear sweep voltammetry (LSV). The findings suggest that the synthesized CuO exhibited favorable crystallinity, morphology, and surface area, which reflects improved cell performance.

Keywords : ECSA, electrocatalyst, energy storage, Tafel

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