

Atomic Structure of Hydrous Ruthenium Oxide Coating on Carbon-Nanotube for
Supercapacitor

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Abstract

In this study, hydrous ruthenium oxide with carbon nanotube additives was deposited on Ti substrate by cathodic deposition method. Combination of amorphous and nanocrystalline structure of hydrous ruthenium oxide was investigated by high resolution electron microscopy. It was found that thin hydrous ruthenium oxide coating layer can be deposited on CNT substrate. The thickness of the coating layer was found less than 10nm. The capacitance was found increased when the deposition time was increased. The maximum capacitance of hydrous ruthenium oxide coating was measured to be 718.8F/g.

Keyword : Atomic Structure, CNT, Hydrous Ruthenium Oxide, Supercapacitor