

# Composite Supercapacitor of Hydrous Ruthenium Oxides and Carbon Nanotube

黃厚升, 林育立

Mechanical Engineering

Engineering

yulilin@chu.edu.tw

## Abstract

In this study, hydrous ruthenium oxides with adding carbon nanotube (CNT) (0.0125–0.1 wt %) was co-deposited on Ti substrate by cathodic deposition method. Ti substrate was first cleaned thoroughly by acetone and followed by chemical etching of 5%HF for 5 minutes and 50%HCl for 15 minutes. These processes will produce many intensive voids which increase the mechanical locking of the coating layer. Experimental results show that the maximum capacitance was measured about 719F/g which is the specimen with adding 0.05wt% CNT and 60 minutes of deposition periods. The effect of adding CNT was found not only increased the effective surface coating area, but also enhanced the coating efficiency during deposition processes.

Keyword : supercapacitor, Carbon Nanotube (CNT), Capacitance