Development/investigation on advanced Ni/Co based pseudoactive electrodes for next-generation high energy density supercapacitors

by Shi Diwen

Date: 07 November 2018 (Wednesday)
Time: 10:00am to 1:00pm (1st hour of defense)
Venue: Tutorial Room E2-03-03

Abstract

Supercapacitors, featured with fast charge-discharge rate, long cycle life time and high power density, have triggered tremendous interest in energy storage field especially in these few years. However, the relatively low energy density has always been a problem for supercapacitors and hindered their wider application. Generally, the performance of supercapacitors is determined by the properties of the electroactive materials. This thesis is working on development/investigation of next generation high energy density supercapacitors with Ni/Co based positive electrode materials. The improvement of electrochemical performance of Ni/Co based pseudocapacitive materials were achieved through advanced nanostructure engineering, including designing nanoporous morphology with larger specific surface area, incorporating conductive skeletons into pseudocapacitive nanostructures and constructing novel heterostructure comprised of different transition metal compounds.

Biography

Shi Diwen received her bachelor degree in Materials Science and Engineering from Shanghai Jiao Tong University in 2011 and master degree in Micro /Nano Science and Technology from Shanghai Jiao Tong University in 2014. She is currently pursuing her Ph.D. in Materials Science and Engineering under the guidance of Prof. Gong Hao. Her research mainly focuses on transition metal based pseudocapacitor electrode materials.

ALL ARE WELCOME!

A/P Xue Jun Min Host