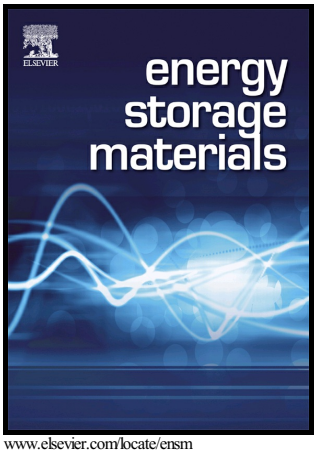
Metal Oxide/Graphene Composite Anode Materials for Sodium-Ion Batteries

Lei Wang, Zengxi Wei, Minglei Mao, Hongxia Wang, Yutao Li, Jianmin Ma



www.elsevier.com/locate/ensm

PII: S2405-8297(18)30428-8
DOI: https://doi.org/10.1016/j.ensm.2018.06.027
Reference: ENSM437

To appear in: *Energy Storage Materials*

Received date: 11 April 2018
Revised date: 14 June 2018
Accepted date: 25 June 2018

Cite this article as: Lei Wang, Zengxi Wei, Minglei Mao, Hongxia Wang, Yutao Li and Jianmin Ma, Metal Oxide/Graphene Composite Anode Materials for Sodium-Ion Batteries, *Energy Storage Materials,* https://doi.org/10.1016/j.ensm.2018.06.027

Metal Oxide/Graphene Composite Anode Materials for Sodium-Ion Batteries

Lei Wang,[a] Zengxi Wei,[a] Minglei Mao,[a] Hongxia Wang,[b] Yutao Li,[c] Jianmin Ma[a,d,*]

[a]*School of Physics and Electronics, Hunan University, Changsha 410082, China*

[b]*School of Chemistry, Physics and Mechanical Engineering, Queensland University of Technology, Brisbane, QLD 4001, Australia*

[c]*Materials Science and Engineering Program, Texas Materials Institute, The University of Texas at Austin, Austin, USA*

[d]*Key Laboratory of Advanced Energy Materials Chemistry (Ministry of Education), Nankai University, Tianjin 300071,P.R. China*

Corresponding author: Jianmin Ma

nanoelechem@hnu.edu.cn

Abstract

Due to the abundance of sodium sources and relatively high safety, sodium-ion batteries (SIBs) are considered as a promising candidate for next-generation large-scale energy storage systems. However, currently the lack of suitable anode materials is limiting the development of SIBs. Metal oxides (MOs) which have the advantage of rich material sources and high theoretical capacity