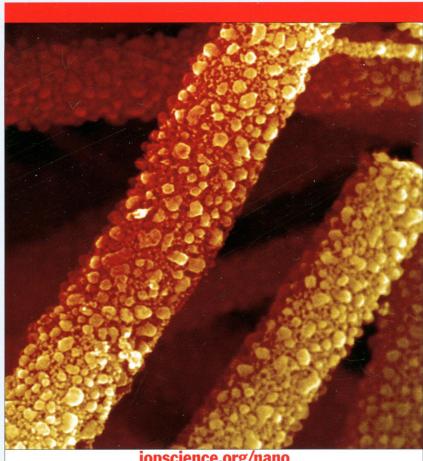
ISSN 0957-4484

NANOTECHNOLOGY

Volume 24 Number 42 25 October 2013



iopscience.org/nano

Special issue

Technological aspects of nanotechnology in lithium batteries

IOP Publishing

Nanotechnology

Volume 24 Number 42, 25 October 2013

Special issue on the technological aspects of nanotechnology in lithium batteries

Editorial

420201 Nanoscience and nanotechnology in next generation lithium batteries* Bruce Dunn, Ping Liu and Shirley Meng

Topical review

422001 Review of porous silicon preparation and its application for lithium-ion battery anodes M Ge, X Fang, J Rong and C Zhou

Papers

424001 Stable cycling and excess capacity of a nanostructured Sn electrode based on Sn(CH₃COO)₂ confined within a nanoporous carbon scaffold James E Trevey, Adam F Gross, John Wang, Ping Liu and John J Vajo

424002 Atomic layer deposition of amorphous TiO₂ on graphene as an anode for Li-ion batteries Chunmei Ban, Ming Xie, Xiang Sun, Jonathan J Travis, Gongkai Wang, Hongtao Sun, Anne C Dillon, Jie Lian and Steven M George

424003 Synthesis and characterization of fluorinated carbon nanotubes for lithium primary batteries with high power density HongJun Yue, Wei Zhang, HaoDong Liu, ZiGeng Liu, GuiMing Zhong and Yong Yang

424004 Hierarchically structured materials for lithium batteries Jie Xiao, Jianming Zheng, Xiaolin Li, Yuyan Shao and Ji-Guang Zhang

424005 Synthesis of nano-scale fast ion conducting cubic Li₇La₃Zr₂O₁₂ Jeff Sakamoto, Ezhiylmurugan Rangasamy, Hyunjoung Kim, Yunsung Kim and Jeff Wolfenstine

424006 Excess lithium storage and charge compensation in nanoscale Li_{4+x}Ti₅O₁₂ Feng Wang, Lijun Wu, Chao Ma, Dong Su, Yimei Zhu and Jason Graetz

424007 First-principles study of the nano-scaling effect on the electrochemical behavior in $\text{LiNi}_{0.5}\text{Mn}_{1.5}\text{O}_4$ Eunseok Lee and Kristin A Persson

424008 Porous silicon nanowires for lithium rechargeable batteries Jung-Keun Yoo, Jongsoon Kim, Hojun Lee, Jaesuk Choi, Min-Jae Choi, Dong Min Sim, Yeon Sik Jung and Kisuk Kang

424009 *In situ* Raman spectroscopy of LiFePO₄: size and morphology dependence during charge and self-discharge Jing Wu, Gopi Krishna Phani Dathar, Chunwen Sun, Murali G Theivanayagam, Danielle Applestone, Anthony G Dylla, Arumugam Manthiram, Graeme Henkelman, John B Goodenough and Keith J Stevenson

424010 A reduced graphene oxide/Cu₆Sn₅ nanocomposite with enhanced cycling stability for lithium storage Fei Wang, Jin Yi, Yonggang Wang and Yongyao Xia

424011 Electrochemical performances and volume variation of nano-textured silicon thin films as anodes for lithium-ion batteries Yanhong Wang, Yaoping Liu, Jieyun Zheng, Hao Zheng, Zengxia Mei, Xiaolong Du and Hong Li

424012 Thermally driven metastable solid-solution Li_{0.5}FePO₄ in nanosized particles and its phase separation behaviors Sunyoung Yoo and Byoungwoo Kang