

Editorial Board for
Evergreen – Joint Journal of Novel Carbon Resource Sciences & Green Asia Strategy

Editor-in-Chiefs

Bidyut Baran Saha and Kyaw Thu

Editors

Hideo Nagashima, Seigi Mizuno, Kazuhide Ito and Naoko Okibe

Evergreen – Joint Journal of Novel Carbon Resource Sciences & Green Asia Strategy
Volume 4 Issue 1 (March 2017)

Published by
Green Asia Education Center, Kyushu University,
Research and Education Center of Carbon Resources, Kyushu University, and
Research and Education Center for Advanced Energy Materials, Devices, and Systems, Kyushu University
6-1 Kasuga-koen, Kasuga, Fukuoka 816-8580 Japan
Tel: +81-92-583-7934
Fax: +81-92-583-8909
Journal Website: http://www.tj.kyushu-u.ac.jp/leading/en/c_publication/evergreen.php
E-mail: evergreen@ga.kyushu-u.ac.jp

Copyright: 2017 by
Green Asia Education Center, Kyushu University,
Research and Education Center of Carbon Resources, Kyushu University, and
Research and Education Center for Advanced Energy Materials, Devices, and Systems, Kyushu University
All rights reserved.
ISSN: 2189-0420 (Print)
ISSN: 2432-5953 (Online)

Printed by
Midori Printing Co., Ltd.
6-17-12 Hakataeki-Minami, Hakata-ku, Fukuoka 812-0016 Japan
<http://www.midori-p.com/>

Evergreen

Joint Journal of Novel Carbon Resource Sciences & Green Asia Strategy

Volume 04, Issue 01, March 2017

CONTENTS

Kuniko Chihara, Masato Ito, Ayuko Kitajou, Shigeto Okada Cathode Property of $\text{Na}_2\text{C}_x\text{O}_x$ [$x = 4, 5, \text{ and } 6$] and $\text{K}_2\text{C}_6\text{O}_6$ for Sodium-ion Batteries	1
Kosuke Nakamoto, Ryo Sakamoto, Ayuko Kitajou, Masato Ito, Shigeto Okada Cathode Properties of Sodium Manganese Hexacyanoferrate in Aqueous Electrolyte	6
Md Kabiruzzaman, Rezwan Ahmed, Takeshi Nakagawa, Seigi Mizuno Investigation of $c(2 \times 2)$ Phase of Pb and Bi Coadsorption on Cu(001) by Low Energy Electron Diffraction	10
Doo-Won Kim, Hyun-Sig Kil, Koji Nakabayashi, Seong-Ho Yoon, Jin Miyawaki Improvement of Electric Conductivity of Non-graphitizable Carbon Material <i>via</i> Breaking-down and Merging of the Microdomains	16
Ahmed M.E. Khalil, Osama Eljamal, Ramadan Eljamal, Yuji Sugihara, Nobuhiro Matsunaga Treatment and Regeneration of Nano-scale Zero-valent Iron Spent in Water Remediation	21
Nik Mohd, Mohamed M. Kamra, Makoto Sueyoshi, Changhong Hu Three-dimensional Free Surface Flows Modeled by Lattice Boltzmann Method: A Comparison with Experimental Data	29
Amr M. Halawa, Basman Elhadidi, Shigeo Yoshida POD & MLSM Application on DU96-W180 Wind Turbine Airfoil	36
Takayuki Oka, Taro Handa, Fujio Akagi, Sumio Yamaguchi, Toshiyuki Aoki, Koichiro Yamabe, Yusuke Kihara Steady-state Analysis of Supersonic Mixing Enhanced by a Three-dimensional Cavity Flow	44
Mohamed M. Kamra, Changhong Hu Implementation of Unstructured Multi-dimensional THINC for Practical Multi-Phase Flow Simulations	52
Tarek N. Dief, Shigeo Yoshida System Identification and Adaptive Control of Mass-Varying Quad-Rotor	58