

CONTENTS

Regular Papers

#001 Hydrogen Concentration Estimation Based on Density Functional Theory in Aluminum and Alpha Iron under Gaseous Hydrogen Environments	1
Yasuyuk Sakagami, Ryosuke Matsumoto, Alf Dario, Shinya Taketomi, T. Enomoto, Noriyuk Miyazaki	
#002 Concurrent Hybrid Simulation of Fracture Dynamics of Suspended Graphene at Finite Temperatures	7
Ryo Kobayashi, Takahide Nakamura, Shuji Ogata	
#003 Development of CNT-Si ₃ N ₄ Composites with High Strength and Electrical Conductivity by Adding HfO ₂	11
Mitsuaki Matsuoka, Sara Yoshio, Tomohiro Yamakawa, Junichi Tatami, Toru Wakihara, Katsutoshi Komeya, Takeshi Meguro	
#004 CNT Diameter Dependence of Thermal Properties of MWCNT	15
Yoshichika Matsuo, Yusuke Wada, Takanori Sasaki, Shigetaka Fujita	
#005 Photocatalytic Degradation of Anionic Dye by Zn-substituted Layered Double Hydroxide in Aqueous Solution	19
Kazuya Morimoto, Kenji Tamura, Jinhua Ye, Hirohisa Yamada	
#006 Influence of the Difference of Driving Method for Device Characteristics of an OLED	23
Hiroyuki Kubo, Erika Takahashi, Yuichiro Kawahara, Takanori Sasaki, Shigetaka Fujita	
#007 Preparation and Characterization of Silica Films on Stainless Steels Substrate by Dip Coating with PDMS/PHPS Solution ...	27
Akio Shimomura, Hajime Horikawa, Junko Shimomura, Yoshio Hasegawa, Takashi Ogihara	
#008 Formation behavior of wear-induced layer in Fe-Ni alloys	31
Hisashi Sato, Yuichi Kubota, Eri Miura-Fujiwara, Yoshimi Watanabe	
#009 Fabrication of TiO ₂ Coated Cotton-Yarn as High-Dielectric-Constant Fiber for 3-D Photonic Crystal Application.....	35
Motoo Furukawa, Hisahi Sato, Yoshimi Watanabe	
#010 Microstructural Softening of Eutectic and Hyper-eutectic Al-Si-X Continuous Casts by Annealing	39
Jouji Oshikiri1, Osamu Umezawa, Norio Nakamura	
#011 Utilization of wasted clothes materials of uniform for agricultural and greening materials.....	45
Megumi Sekkuden, Toshio Yamamura, Tatsuo Okazawa, Koichi Goda, Toshihiro Okabe	
#012 Evaluation of By-Product Feeds by In Situ Degradation in the Cow Rumen	49
Hiromi Nii	
#013 Electrical Properties of Plastic Composite Materials with Rice-hull and Soy-hull Carbon Powders	53
K. Satou, T. Takahashi, H. Goto, T. Kaneiwa, H. Iizuka	
#014 Effect of cooling rate of KOH activation process on activated carbons	57
Hiroe Tanaka, Ikumi Toda, Hayato Maruyama, Hiroki Ono, Shigeo Ohshio, Hiroki Akasaka, Yoshihisa Tanaka, Syuji Himeno, Toshinori Kokubu, Hidetoshi Saitoh	
#015 Melt Electrospinning by Cylinder Heating Method	61
Yoshihiro Yamashita, Katsuhisa Tokumitsu, Hiroshi Shibata, Hajime Miyake	
#016 Excess Potassium and Microstructure Control for Producing Dense KNbO ₃ Ceramics	65
Shigeki Sato, Y. Hiruma, H. Nagata, T. Takenaka	
#017 Clamping of Non-180° Domain Walls in Bi-Based Ferroelectric Single Crystals	69
Yuuki Kitanaka, Yuji Noguchi, Masaru Miyayama	
#018 Structural investigations of AgNbO ₃ phases using high-energy X-ray diffraction	73
Yasuhiro Yoneda, Kenji Yoshii, Shinji Kohara	
#019 Electronic Structure of BiFe _{1-x} M _x O ₃ (M=Mn and Co) Thin Films by Soft-X-Ray Spectroscopy	77
Tohru Higuchi, Hiroshi Naganuma, Jun Miura, Yosuke Inoue, Yi-Sheng Liu, Per-Anders Glans, Jinghua Guo, Soichiro Okamura	
#020 Structural and Electrical Properties of BaCe _{0.90} Y _{0.10} O _{3-δ} Thin Film on Al ₂ O ₃ Substrate	81
Tomohiro Owaku, Yasutaka Iida, Hiroyuki Fukawa, Tohru Higuchi	
#021 Structural and Optical Properties of SrTi _{1-x} Sc _x O ₃ Thin Film Prepared by RF Magnetron Sputtering	85
Teppei Okumura, Yusuke Kobayashi, Fuyuki Ihara, Tohru Higuchi	
#022 A New Generation of Nutra-ceuticals and Cosme-ceuticals Complexing lipophilic bioactives with γ-Cyclodextrin	89
Yukiko Uekaji, Ayako Jo, Mayu Ohnishi, Daisuke Nakata, Keiji Terao	

#023 Phase transition and UV-vis spectra of Al ₂ Mo ₃ O ₁₂ -related compounds	95
S. Kimiwada, I. Yanase, H. Kobayashi	
#024 Investigation of deposition condition of LiMn ₂ O ₄ films prepared by RF magnetron sputtering	99
Masaaki Isai and Mitsuhiro Nakamura	