

CONTENTS

Regular Papers

- Numerical Study on Transformation/Deformation Behavior of Shape Memory Alloy under Mechanical and Thermal Loading in the Uniaxial and Multi-axial Stress State 1
 Akihiko Suzuki, Takaaki Yamamoto, Hiroki Cho, Toshio Sakuma

- The Effect of Micro Dimples Formed on Nylon12/Polyamide-Imide Composite Coatings on Friction and Wear Behavior 7
 Kosuke Suzuki, Akio Hikasa, Nobuyuki Suzuki

- Stabilized Pt deposition on the TiO₂ films and their photocatalytic properties 11
 Masaaki Isai, Ikuta Nakamura, Takanori Sato, Yoichi Hoshi

- Thermoelectric Properties of Na-doped Mg₂Si_{0.25}Sn_{0.75} 17
 Satoki Tada, Yukihiko Isoda, Haruhiko Udono, Hirofumi Fujii, Shunji Kumagai, Yoshikazu Shinohara

Review Paper

- Novel Centrifugal Casting Method by using Machining Chips 21
 Yoshimi Watanabe, Yasumasa Oya, Hisashi Sato

Regular Papers

- Preparation of Al-doped ZnO Sputtering Target for Transparent Conductive Films by Pulse-Current Sintering 27
 Hiroyuki Kitagawa, Kazuhei Yoshida, Yasuji Yamada, Shugo Kubo

- Source of nitrogen atoms of amorphous carbon nitride films fabricated with microwave-plasma CVD processes 31
 Haruhiko Ito, Ayumi Yamamoto, Tsuneo Suzuki, Hidetoshi Saitoh

- An ionic-liquid-supported 18-crown-6 ether: Recyclable Catalyst for Acetylation and Fluorination in an Ionic Liquid 35
 Shinichi Koguchi,

- RF Characteristics of Poly-Si Thin-film Transistors 37
 Tzu-I Tsai, Horng-Chih Lin, Ting-Yao Lin, Kun-Ming Chen, Tien-Sheng Cha, Tiao-Yuan Huang

- Fabrication of Textured BaTiO₃ Ceramics by Electrophoretic Deposition in A High Magnetic Field using Single-domain Particles 41
 Ichiro Fujii, Tatsuya Kita, Kouichi Nakashima, Takahiro Takei, Nobuhiro Kumada, Tohru S. Suzuki, Tetsuro Uchikoshi, Yoshio Sakka, Yasunari Miwa, Shinichiro Kawada, Masahiko Kimura, Yoshihiro Kuroiwa, Satoshi Wada

- Synthesis of BaZrO₃ nanocrystals by wet chemical reaction 45
 Kouichi Nakashima, Ichiro Fujii, Satoshi Wada

- Preparation of Bismuth Based Perovskites with Non-integer A and B Site Valence and Their Properties 49
 Ichiro Fujii, Atsushi Shimamura, Kouichi Nakashima, Nobuhiro Kumada, Hiroshi Funakubo, Yoshihiro Kuroiwa, Satoshi Wada

- Hydrothermal Synthesis of BiFeO₃ Fine Particles 53
 Miyabi Kobayashi, Nobuhiro Kumada, Akira Miura, Takahiro Takei, Ichiro Fujii, Satoshi Wada

- The Dielectric and Piezoelectric Properties of KNbO₃ / BaTiO₃ Composites With A Wide BaTiO₃ Size Distribution 57
 Ichiro Fujii, Kenta Yamashita, Kouichi Nakashima, Nobuhiro Kumada, Eisuke Magome, Chikako Moriyoshi, Yoshihiro Kuroiwa, Satoshi Wada

- Oxidative Decoloration of Dyes by Pulsed Discharge Plasma over a Water Surface under Argon Atmospheric 61
 Wahyudiono, Siti Machmudah, Mitsuru Sasaki, Hidenori Akiyama, Motonobu Goto

- Titanium Oxide Thin Film Preparation by Pulsed Laser Deposition Method Using a Powder Target 69
 Hiroharu Kawasaki, Daichi Taniyama, Tamiko Ohshima, Takeshi Ihara, Yoshihito Yagyu, Yoshiaki Suda

- Growth of Ag Nanostructures on Various Metallic Substrates 73
 E. Meng, K. Nakane, T. Matsushita, W. Li, S. Oda, K. Shirai, S.M. Cai, M. Shimomura, W. Tomoda, T. Kobayashi, Y. Kuno, K. Miyabayashi, H. Tatsuoka

- Nanoparticle Formation by Tungsten Ion Implantation in Glassy Carbon 81
 S. Kato, T. Yamaki, S. Yamamoto, T. Hakoda, K. Kawaguchi, T. Kobayashi, A. Suzuki, T. Terai

- High Speed Si-DLC Coatings on Mg-alloy with Higher Repetition Bi-polar Pulses of a PBII System 85
 Ikeyama Masami and Sonoda Tsutomu

- Fabrication of highly-oriented silicide film on Si substrate treated by low-energy ion beam 89
 Satoshi Hamamoto, Kenji Yamaguchi, Kiichi Hojou

Irradiation Effects of Ethanol Cluster Ion Beam on Mica Surface	93
Hiromichi Ryuto, Yuki Ohmura, Mitsuaki Takeuchi, Gikan H. Takaoka	
Hermetic Protection of Rings by Ion Beam Sputter Coating with a Broad Beam Ion Source and a W-Shaped Hollow Sputter Target	97
Wolfgang Ensinger, Stefan Flege, Ruriko Hatada, Sevda Ayata, Takaomi Matsutani, Koumei Baba	
Fabrication of Micropatterns on Teflon Surface by Proton Beam Writing and Nitrogen Ion Beam Irradiation	101
Akane Kitamura, Takahiro Satoh, Masashi Koka, Tomihiro Kamiya, Tomohiro Kobayashi	
Ion-Track Membranes of Poly(vinylidene fluoride): Etching Characteristics during Conductometric Analysis	105
Nunung Nuryanthy, Tetsuya Yamaki, Hiroshi Koshikawa, Masaharu Asano, Shin-ichi Sawada, Shin Hasegawa, Yasunari Maekawa, Yosuke Katsumura	
Local Structure Analysis of SmFe₂ and TbFe₂	109
Yasuhiro Yoneda, Shinji Kohara, Masayoshi Ito, Hiroshi Abe, Mitsuaki Takeuchi, Hirohisa Uchida,, Yoshihito Matsumura	
Partial Dynamic Structure Factors Sξ(k,ω) and Phonon Propagation in Molten RbAg₄I₅: Molecular Simulation Study ...	113
Shigeki Matsunaga	
Use of Polymer-Supported Terpyridine Palladium Complex for SuzukiMiyaura Cross-Coupling Reaction in Water and the Synthesis of 2,6-Disubstituted Pyrimidines	119
Toshimasa Suzuka, Mika Adachi, Zhong-Sheng Yang, Kazuhito Ogihara,, Matsutake Higa	
Fluorescent Solvatochromism of 2-Aminotryptanthrin	123
Jun Kawakami, Hiroko Kawaguchi, Kenta Kikuchi, Asako Yamaya, Shunji Ito, Haruo Kitahara	
Influence of Annealing on the Photoconversion Efficiency of Titania Nanotube Arrays	127
D. Pathinettam Padiyana and S. T. Nishanthi	
Enhancement of upconversion luminescence of Al₂O₃: Er³⁺, Yb³⁺ thin films by small assemblies of Au nanorods	131
Taishi Nakano, Minoru Fujii, Kenji Imakita, Shinji Hayashi, Takaaki Tsuruoka, Kensuke Akamatsu	
Evaluation of Distributed Inorganic Electroluminescence (EL) Devices with Comb Electrodes	135
S.-I. Yamamoto, Y. Uraoka, N. Taguchi, T. Nonaka	
Errata	
Erratum to “Lattice distortion and thermoelectric property for Zn_{1-(x+y)}Ga_xIn_yO system (x + y = 0.007, 0 ≤ x ≤ 0.007, 0 ≤ y ≤ 0.007)”	141
H. Takemoto, H. Kawakami, M. Saito,, H. Yamamura	
Erratum to “Influence of average ionic radius of dopants in Zn site on thermal conductivity and dimensionless figure of merit for Zn_{1-(x+y)}Ga_xIn_yO system (0.0 ≤x + y ≤0.007)”	143
H. Takemoto, M. Saito,, H. Yamamura	