

CONTENTS

Regular Papers

Effects of Synthesis Conditions and Starting Materials' Properties on Porosity of Template Carbons	1
Hironobu Abiko	
2-(Benzo-d-thiazol-2-yl)quinoline as a Fluorescent Chemosensor Material for Hg(II)	9
Jun Kawakami, Rie Ohtake, Ryo Miyamoto, Masahiko Nagaki and Shunji Ito	

Symposium of Domain Structure Related Ferroic Properties and New Functional Materials

Preface	13
XAFS Study of Relaxor Pd(In _{0.5} Nb _{0.5})O ₃	15
Yasuhiro Yoneda and Naohiko Yasuda	
Switching Properties and Domain Dynamics of the c-axis Polarization in Monoclinic Bi ₄ Ti ₃ O ₁₂ Single Crystals	19
Yuuki Kitanaka, Yuji Noguchi and Masaru Miyayama	
Epitaxial Growth and Ferroelectric Properties of PbTiO ₃ Thin Films on Coherently Grown Pt Bottom Electrodes	23
Hironori Fujisawa, Masayoshi Kume and Masaru Shimizu	
Microstructure Related to the Ferroelectric Properties in BiFeO ₃ -BaTiO ₃	27
S. Kitagawa, Y. Horibe, Y. Yoshii, M. Suzuki, Y. Noguchi, S. Nishihara, Y. Hosokoshi and S. Mori	
Dilution Effect on Microstructure with Respect to Magnetic and Dielectric Properties in Charge-ordered Ferroelectric LuFe ₂ O ₄	31
Y. Matsuo, Y. Horibe, K. Yoshii, N. Ikeda and S. Mori	
Preparation and Properties of Ferroelectric 0.7BiFeO ₃ -0.3BaTiO ₃ Thin Films by Chemical Solution Deposition	35
Yuka Ito, Makoto Moriya, Wataru Sakamoto and Toshinobu Yogo	
Grain-orientation Control of Bi ₃ FeTi ₃ O ₁₅ Ceramics Prepared by Magnetic-field-assisted Electrophoretic Deposition	39
Muneyasu Suzuki, Tetsuo Uchikoshi, Yuji Noguchi and Masaru Miyayama	
Effect of Oxidation and Reduction on the Ferroelectric Properties of Superlattice-Structured Bi ₄ Ti ₃ O ₁₂ -PbBi ₄ Ti ₄ O ₁₅ Single Crystals	43
M. Ikezaki, Y. Noguchi, K. Katayama and M. Miyayama	
Relationship Between MPB and Emergence of Structural Boundary in Cubic Phase of Pb-Based Perovskite-Type Solid Solutions PZT and PZN-PT	47
Yoshihiro Terado, Chikako Moriyoshi, Yoshihiro Kuroiwa, Yasuhisa Yamamura and Makoto Iwata	
Effects of Oxygen Pressure during Crystal Growth on the Polarization Properties in Bi ₄ Ti ₃ O ₁₂ Single Crystals	53
Katsuya Yamamoto, Yuuki Kitanaka, Muneyasu Suzuki, Yuji Noguchi, Masaru Miyayama, Chikako Moriyoshi and Yoshihiro Kuroiwa	
Domain Wall Engineering in Lead-free Piezoelectric Materials	57
Satoshi Wada, Koutaro Takeda, Takaaki Tsurumi and Toshio Kimura	
Influence of Light Irradiation on Electrical Properties of Lead Zirconate Titanate Film Capacitors	61
Takashi Nishida, Takashi Nozaka, Masahiro Echizen, Hiroaki Takeda, Kiyoshi Uchiyama and Tadashi Shiosaki	
Structural and Electric Properties of (Ba, Sr)TiO ₃ Thin Films on Glazed Alumina Substrate	65
Takashi Nozaka, Takashi Nishida, Yoji Mizutani, Bhakdisonghram Gun, Takuya Tsuchikawa, Masahiro Echizen, Hiroaki Takeda, Kiyoshi Uchiyama and Tadashi Shiosaki	
Synthesis and Characterization of PbTiO ₃ Ferroelectric Nanocrystals on Atomically Flat α-Al ₂ O ₃ (0001)Substrates by RF Magnetron Sputtering	69
Koichi Kubo, Masahiro Echizen, Takashi Nishida, Hiroaki Takeda, Kiyoshi Uchiyama and Tadashi Shiosaki	

Symposium of Fabrication, Characterization and Application of Molecular Thin Films

~Structural Analysis and Control Toward the Realization of Novel Functions ~

Preface	73
Structural Control of Functionalized Groups in Organized Molecular Films of Comb Copolymers	75
Atsuhiko Fujimori, Hiroko Hoshizawa, Ryoko Kobayashi and Natsuki Sato	
Solid-state Structure and Molecular Orientation in Organized Films of Ternary Comb Copolymers Containing N-vinylcarbazole	79
Satoshi Kobayashi, Syohei Jindo, Hiroko Hoshizawa and Atsuhiko Fujimori	
Fine Structure of 'Crystalline' Fluorinated Transparent Films and Fibers	83
Yuichiro Hayasaka and Atsuhiko Fujimori	
Structures in the Solid-state and in the Organized Molecular Films of Comb Copolymers Containing s-Triazine Ring	87
Natsuki Sato, Ryoko Kobayashi and Atsuhiko Fujimori	
Fabrication and Structural Control of PLLA/clay Two-dimensional Nanocomposite in Organized Molecular Films	91
Yoshitaka Takahara, Naoya Ninomiya and Atsuhiko Fujimori	
Restoration of J-band by Hydrothermal Treatments in Dry-heat-treated Merocyanine LB Films	95
Yuki Koyano, Yuichi Sugano, Hiroko Moshino, Yasuhiro F. Miura and Michio Sugi	
Preparation and Characterization of Micro-patterned Hybrid Bilayer Membrane	99
Yasuhiro Nishimura, Takaaki Manaka and Mitsumasa Iwamoto	
Hydrothermal and Dry-heat Treatments in Merocyanine-containing Langmuir-Blodgett Films	103
Hiroko Moshino, Yuki Koyano, Yuichi Sugano, Yasuhiro F. Miura and Michio Sugi	
Thermal Stability of the Hydrothermally-induced J-band in Merocyanine-containing LB Films	107
Yuichi Sugano, Yuki Koyano, Hiroko Moshino, Yasuhiro F. Miura and Michio Sugi	
Direct Sol-Gel Synthesis of Patterned Zirconia Thin Films Using Self-Assembly in Phase-Separated Mixed Langmuir-Blodgett Films	111
Masahiro Sato, Hirobumi Shibata, Hideki Sakai, Masahiko Abe and Mutsuyoshi Matsumoto	
Effect of Fabrication Conditions on the Structures and Photoreactions of Langmuir-Blodgett Films of Amphiphilic Spiropyran	115
Takehito Tomioka, Hirobumi Shibata and Mutsuyoshi Matsumoto	
Frictional Properties of the Ultra-thin Films Constructed with Fluorocarbon Rods	119
Kenji Hisada, Akiko Hino, Saori Inoue and Teruo Hori	
Possible Anomalous "Monomer Shifts" of Merocyanine Dyes in their Aggregates - an Analytical Study	123
Keiichi Ikegami and Yoko Tatewaki	
Studies on Synthesis of 5,5'-distyryl-2,2'-bithiophene Derivatives and Their Optical and Electrochemical Properties	127
Yasuhiro Akita, Tomohito Ide, Atsunori Mori, Kazuaki Kudo and Shigeru Machida	
Measurement of Electrical Condition of C₆₀ Derivatives Monolayer on Au Ultrathin Film	131
Fumihiko Matsuyama, Kazuo Nishitani, Teppei Maeda, Tomoyasu Oda, Nobuyuki Iwata and Hiroshi Yamamoto	

Symposium of Advanced Nanostructured Materials

Preface	135
Fine Structure of Fluorinated Copolymer / Nono-filler Composites	137
Yuichiro Hayasaka, Tadashi Tamura and Atsuhiko Fujimori	
Photoluminescence Properties of Si Nanocrystals Near Rough Au Films	141
Nobuyuki Ishikura, Minoru Fujii, Masaki Inui and Shinji Hayashi	

Self-spreading Lipid Bilayer on Nano-structured Surface with Periodic Array of Metallic and Organic Nano-architectures	145
Hideki Nabika, Baku Takimoto and Kei Murakoshi	
Preparations and Characterizations of Nano-Sized Complexes Consisting of Stimuli-Responsive Block Copolymers and PAMAM Dendrimers	149
Yumi Kuboshima, Kazuya Yamamoto and Takao Aoyagi	
Magnetic Property and Crystallinity of a Ni-P Hollow Microfiber Affected by Immersion in a NaOH Aqueous Solution	153
Hirokazu Oda, Tomokazu Iyoda and Masaru Nakagawa	
Immobilization and Assembly of Mixed Monolayer-Protected Au Nanoparticles on Glass Substrate via Covalent Bond Interconnection	157
Takaaki Tsuruoka, Asami Fujimoto, Kensuke Akamatsu and Hidemi Nawafune	
Interfacial Electron Transfer Mechanisms in Bithiophene Sensitized TiO₂ Based Solar Cells	161
Yasuhiro Tachibata, Yasuhide Otsuka, Kazuya Umekita and Susumu Kawabata	
Sensitized Generation of Singlet Oxygen by Allylamine-Terminated Hydrophilic Porous Si	165
Hirokazu Fumon, Masato Nojiri, Minoru Fujii, Shinji Hayashi and Kensuke Akamatsu	
Electronic Structure of Dendrimer-Au Hybrid Nanoparticle : Hard X-ray Photoemission Study	169
Yoshiaki Murase, Takanobu Kitagawa, Masaki Imamura, Akinori Tanaka, Hidehiro Yasuda, Yuichi Negishi, Tatsuya Tsukada, Shigenori Ueda, Yoshiyuki Yamashita, Hideki Yoshikawa and Keisuke Kobayashi	
Nitrogen-Doped Titanium(IV) Oxide Particles as a Visible-Light-Responsive Photocatalyst Prepared from Exfoliated Titanate Nanosheets	173
Fumiaki Amano, Ryu Abe and Bunsho Ohtani	
Photoluminescence of Electrodeposited ZnO Hybrid Thin Films	177
H. Iwai, K. Mizuta, A. Yamamoto, H. Yanagi and T. Yoshida	
Conductance of Single 4,4'-Bipyridine Molecule Anchored on Au Electrodes Under Electrochemical Potential Control	181
Kunio Hashimoto, Manabu Kiguchi, Tatsuya Konishi and Kei Murakoshi	
Structural Characterization and Photoelectrochemical Properties of Silver Nanoparticle-Polyion Films	185
Taichi Arakawa, Tsuyoshi Akiyama and Sunao Yamada	