

APPLIED PHYSICS EXPRESS Volume 3, Number 7, July 2010

Semiconductors, dielectrics, and organic materials

- 071001 Experimental and Theoretical Considerations of Polarization Field Direction in Semipolar InGaN/GaN Quantum Wells
Mitsuru Funato, Masaya Ueda, Daisuke Inoue, Yoichi Kawakami, Yukio Narukawa, Takashi Mukai
- 071002 Enhanced the Light Extraction Efficiency of an InGaN Light Emitting Diodes with an Embedded Rhombus-Like Air-Void Structure
Jing-Jie Dai, Chia-Feng Lin, Guei-Miao Wang, Ming-Shiou Lin
- 071101 Mg_xZn_{1-x}O Films with a Low Residual Donor Concentration (<10¹⁵ cm⁻³) Grown by Molecular Beam Epitaxy
Shunsuke Akasaka, Ken Nakahara, Atsushi Tsukazaki, Akira Ohtomo, Masashi Kawasaki
- 071301 Fine Structure Due to Donor-Acceptor Pair Luminescence in Compensated Si
Michio Tajima, Takaaki Iwai, Hiroyuki Toyota, Simona Binetti, Daniel Macdonald
- 071302 Passivation of Electrically Active Defects in Ge-Rich SiGe-on-Insulator by Al₂O₃ Deposition and Subsequent Post-Deposition Annealing
Haigui Yang, Masatoshi Iyota, Shogo Ikeura, Dong Wang, Hiroshi Nakashima
- 071303 Critical Displacement of Host-Atoms for Amorphization in Germanium Induced by Arsenic Implantation
Yoko Kawamura, Yasuo Shimizu, Hiroyuki Oshikawa, Masashi Uematsu, Eugene E. Haller, Kohei M. Itoh
- 071601 Novel Dopant for Graded-Index Polymer Optical Fiber with High-Thermal Stability
Yasushi Yamaki, Makoto Asai, Satoshi Takahashi, Yasuhiro Koike

Photonics, quantum electronics, optics, and spectroscopy

- 072001 Mechanism on Effect of Surface Plasmons Coupling with InGaN/GaN Quantum Wells: Enhancement and Suppression of Photoluminescence Intensity
Zengli Huang, Jianfeng Wang, Zhehui Liu, Ke Xu, Hui Yang, Bing Cao, Qin Han, Guiju Zhang, Chinhua Wang
- 072101 What Is the Longest Lasing Wavelength of InAs/InP (100) Quantum Dots Grown by Metal Organic Vapor Phase Epitaxy?
Junji Kotani, Peter J. van Veldhoven, Richard Nötzel
- 072102 Improvement of External Quantum Efficiency in InGaN-Based Double-Heterostructure Light-Emitting Diodes
Mu-Jen Lai, Liann-Be Chang, Ray-Ming Lin, Chou-Shuang Huang
- 072103 Properties of Mid-Ultraviolet Light Emitting Diodes Fabricated from Pseudomorphic Layers on Bulk Aluminum Nitride Substrates
James R. Grandusky, Shawn R. Gibb, Mark C. Mendrick, Leo J. Schowalter
- 072201 Optical Isolation Using Nonreciprocal Polarization Rotation in Fe-InGaAlAs/InP Semiconductor Active Waveguide Optical Isolators
Hiromasa Shimizu, Syunsuke Goto, Toshiaki Mori
- 072202 A 1 V Peak-to-Peak Driven 10-Gbps Slow-Light Silicon Mach-Zehnder Modulator Using Cascaded Ring Resonators
Suguru Akiyama, Teruo Kurahashi, Takeshi Baba, Nobuaki Hatori, Tatsuya Usuki, Tsuyoshi Yamamoto
- 072401 Time-Domain Coherent Anti-Stokes Raman Scattering Signal Detection for Terahertz Vibrational Spectroscopy Using Chirped Femtosecond Pulses
Masahiko Tani, Toshiyuki Koizumi, Hisashi Sumikura, Mariko Yamaguchi, Kohji Yamamoto, Masanori Hangyo
- 072601 Synthesis and Luminescent Properties of Transparent Oxyfluoride Glass-Ceramics Containing Er³⁺:YLiF₄ Nanocrystals
Takenobu Suzuki, Shin-ichiro Masaki, Kento Mizuno, Yasutake Ohishi
- 072801 Optical Anisotropy of Strongly Enhanced Sum Frequency Generation in (113)B GaAs/AlAs Coupled Multilayer Cavity
Ken Morita, Fumiya Tanaka, Tomoya Takahashi, Takahiro Kitada, Toshiro Isu

Spintronics, superconductivity, and strongly correlated materials

- 073001 Large Diode Sensitivity of CoFeB/MgO/CoFeB Magnetic Tunnel Junctions
Shota Ishibashi, Takeshi Seki, Takayuki Nozaki, Hitoshi Kubota, Satoshi Yakata, Akio Fukushima, Shinji Yuasa, Hiroki Maehara, Koji Tsunekawa, David D. Djayaprawira, Yoshishige Suzuki

(Continued on third cover)

(Continued)

- 073002 **Local Magnetic Anisotropy Induced by a Nano-Modulated Substrate and Application to Two-Dimensional Magnetic Sensors**
Joel Briones, François Montaigne, Daniel Lacour, Gwladys Lengaigne, Stéphanie Girod, Michel Hehn
- 073003 **Single-Crystalline CaMoO₃ and SrMoO₃ Films Grown by Pulsed Laser Deposition in a Reductive Atmosphere**
Aldin Radetinac, Kei S. Takahashi, Lambert Alff, Masashi Kawasaki, Yoshinori Tokura
- 073004 **Control of Multiple Magnetic Domain Walls by Current in a Co/Ni Nano-Wire**
Daichi Chiba, Gen Yamada, Tomohiro Koyama, Kohei Ueda, Hironobu Tanigawa, Shunsuke Fukami, Tetsuhiro Suzuki, Norikazu Ohshima, Nobuyuki Ishiwata, Yoshinobu Nakatani, Teruo Ono
- 073005 **Specific Heat Study of GaMnAs**
Shavkat Yuldashev, Khusan Igamberdiev, Sejoon Lee, Younghae Kwon, Yongmin Kim, Hyunsik Im, Anatoly Shashkov, Tae Won Kang

Device physics

- 074201 **Operation of Monolithically-Integrated Digital Circuits with Light Emitting Diodes Fabricated in Lattice-Matched Si/III-V-N/Si Heterostructure**
Keisuke Yamane, Kenta Noguchi, Seizo Tanaka, Yuzo Furukawa, Hiroshi Okada, Hiroo Yonezu, Akihiro Wakahara

Nanoscale science and technology

- 075001 **Hydrogen Sensor with Pd Nanoparticles upon an Interfacial Layer with Oxygen**
Chia-Hua Huang, Jung-Hui Tsai, Tzung-Min Tsai, Kuo-Yen Hsu, Wei-Chen Yang, Hsuan-Wei Huang, Wen-Shung Lour
- 075101 **Molecular Adsorption Behavior of Epitaxial Graphene Grown on 6H-SiC Faces**
Muhammad Qazi, Mohammad W. K. Nomani, M. V. S. Chandrashekhar, Virgil B. Shields, Michael G. Spencer, Goutam Koley
- 075102 **Half-Integer Quantum Hall Effect in Gate-Controlled Epitaxial Graphene Devices**
Shinichi Tanabe, Yoshiaki Sekine, Hiroyuki Kageshima, Masao Nagase, Hiroki Hibino

Crystal growth, surfaces, interfaces, thin films, and bulk materials

- 075501 **Growth of Large GaN Single Crystals on High-Quality GaN Seed by Carbon-Added Na Flux Method**
Mamoru Imade, Yasuhiro Hirabayashi, Yusuke Konishi, Hiroshi Ukegawa, Naoya Miyoshi, Masashi Yoshimura, Takatomo Sasaki, Yasuo Kitaoka, Yusuke Mori
- 075601 **Growth of GaInN by Raised-Pressure Metalorganic Vapor Phase Epitaxy**
Daisuke Iida, Kensuke Nagata, Takafumi Makino, Motoaki Iwaya, Satoshi Kamiyama, Hiroshi Amano, Isamu Akasaki, Akira Bandoh, Takashi Udagawa
- 075602 **Nucleus and Spiral Growth Mechanisms of GaN Studied by Using Selective-Area Metalorganic Vapor Phase Epitaxy**
Tetsuya Akasaka, Yasuyuki Kobayashi, Makoto Kasu
- 075603 **(100) Orientation-Controlled Ge Giant-Stripes on Insulating Substrates by Rapid-Melting Growth Combined with Si Micro-Seed Technique**
Kaoru Toko, Masashi Kurosawa, Hiroyuki Yokoyama, Naoyuki Kawabata, Takashi Sakane, Yasuharu Ohta, Takanori Tanaka, Taizoh Sadoh, Masanobu Miyao
- 075701 **Atomically Resolved Surface Structure of SrTiO₃(001) Thin Films Grown in Step-Flow Mode by Pulsed Laser Deposition**
Katsuya Iwaya, Takeo Ohsawa, Ryota Shimizu, Tomihiro Hashizume, Taro Hitosugi

Plasmas, applied atomic and molecular physics, and applied nuclear physics

- 076401 **Controlling the Pointing Angle of a Relativistic Electron Beam in a Weakly-Nonlinear Laser Wakefield Accelerator**
Nasr A. M. Hafz, Tae Jun Yu, Seong Ku Lee, Tae Moon Jeong, Jae Hee Sung, Jongmin Lee

Device processing, fabrication and measurement technologies, and instrumentation

- 076701 **A Clean Source of Ground-State N atoms: Decomposition of N₂ on Heated Tungsten**
Hironobu Umemoto

(Continued on preceding page)