

## JAPANESE JOURNAL OF APPLIED PHYSICS

Volume 49, Number 2, February 2010 [Issue 1 of 2]

### Rapid Communications

- 020201 **Fabrication of High-Power InGaN-Based Light-Emitting Diode Chips on Pyramidally Patterned Sapphire Substrate** (3 pages)  
Yi-Ju Chen, Cheng-Huang Kuo, Chun-Ju Tun, Shih-Chieh Hsu, Yuh-Jen Cheng, Cheng-Yi Liu
- 020202 **p-Channel Tin Monoxide Thin Film Transistor Fabricated by Vacuum Thermal Evaporation** (3 pages)  
Ho-Nyeon Lee, Hyung-Jung Kim, Chang-Kyo Kim
- 020203 **Carrier Relaxation in InAs/InGaAs Dots-in-a-Well Structures** (3 pages)  
Rui Chen, Hui-Yun Liu, Han-Dong Sun
- 020204 **Semiconducting Electronic Structure of Graphene Adsorbed on Insulating Substrate: Fragility of the Graphene Linear Dispersion Band** (3 pages)  
Susumu Okada
- 020205 **Structural and Piezoelectric Properties of  $(1-x)(\text{Na}_{0.5}\text{K}_{0.5})\text{NbO}_3-x\text{Ba}(\text{Ti}_{0.9}\text{Sn}_{0.1})\text{O}_3$  Lead-Free Ceramics** (3 pages)  
Yu-Joung Cha, Young Hun Jeong, Young-Jin Lee, Jong-Hoo Paik, Sahn Nahm
- 020206 **Induction of Orientational Order through Coupling with Hyper Shear Flow** (3 pages)  
Taichi Hirano, Keiji Sakai
- 020207 **Three-Dimensional Tomographic Imaging in Terahertz Region** (3 pages)  
Hideaki Kitahara, Masahiko Tani, Masanori Hangyo
- 020208 **Measurement of Oscillation Frequency and Spectral Linewidth of Sub-Terahertz InP-Based Resonant Tunneling Diode Oscillators Using Ni-InP Schottky Barrier Diode** (3 pages)  
Koichi Karashima, Ryo Yokoyama, Masato Shiraishi, Safumi Suzuki, Satoshi Aoki, Masahiro Asada
- 020209 **Transport Properties in a Single Domain of Microscale  $\text{Sr}_2\text{RuO}_4$  Single Crystals** (3 pages)  
Hiroyoshi Nobukane, Katsuhiko Inagaki, Satoshi Tsuchiya, Yasuhiro Asano, Koichi Ichimura, Kazuhiko Yamaya, Shigeru Takayanagi, Ikuto Kawasaki, Kenichi Tenya, Hiroshi Amitsuka, Satoshi Tanda
- 020210 **A New Intercalation Superconductor  $\text{Mg}_x(\text{PC})_y\text{ZrNCl}$**  (2 pages)  
Hiroto Tezuka, Masatsune Kato, Takashi Noji, Shoji Yamanaka, Yoji Koike
- 020211 **Fundamental Oscillation of up to 915 GHz in Small-Area InGaAs/AlAs Resonant Tunneling Diodes with Planar Slot Antennas** (3 pages)  
Masato Shiraishi, Safumi Suzuki, Atsushi Teranishi, Masahiro Asada, Hiroki Sugiyama, Haruki Yokoyama
- 020212 **Synchrotron X-ray Diffraction Study of Single-Phase  $\beta\text{-AlN}$  Thin Films Heteroepitaxially Grown on Sapphire (0001) Substrates by Pulsed Laser Deposition** (3 pages)  
Kazushi Sumitani, Ryota Ohtani, Tomohiro Yoshida, You Nakagawa, Satoshi Mohri, Tsuyoshi Yoshitake
- 020213 **GaAs Nanowire and Crystallite Growth on Amorphous Substrate from Metalorganic Precursors** (2 pages)  
Gintare Statkute, Albert G. Nasibulin, Markku Sopanen, Teppo Hakkarainen, Esko Kauppinen, Harri Lipsanen
- 020214 **New Green Phosphor  $(\text{Ba}_{1.2}\text{Ca}_{0.8-x}\text{Eu}_x)\text{SiO}_4$  for White-Light-Emitting Diode** (3 pages)  
Kwangwon Park, Jongsu Kim, Patrick Kung, Seongsin M. Kim
- 020215 **A Cu-Metallized InGaP/GaAs Heterojunction Bipolar Transistor with Reliable Pd/Ge/Cu Ohmic Contact for Power Applications** (3 pages)  
Jui-Chien Huang, Yueh-Chin Lin, Yu-Ling Tseng, Ke-Shian Chen, Po-Chin Lu, Mong-E Lin, Edward-Yi Chang
- 020216 **X-ray Intensity Fluctuation Spectroscopy Using Nanofocused Hard X-rays: Its Application to Study of Relaxor Ferroelectrics** (3 pages)  
Kenji Ohwada, Kazumichi Namikawa, Susumu Shimomura, Hironori Nakao, Hidekazu Mimura, Kazuto Yamauchi, Mitsuyoshi Matsushita, Jun'ichiro Mizuki
- 020217 **Experimental Investigation of the Electrical Parameter Changes of Tuning Fork Crystal Oscillators Exposed to Air** (3 pages)  
Sang-Hun Song

### Regular Papers

#### Semiconductors, dielectrics, and organic materials

- 021001 **Electrical Characterization and Transmission Electron Microscopy Assessment of Isolation of AlGaIn/GaN High Electron Mobility Transistors with Oxygen Ion Implantation** (5 pages)  
Jin-Yu Shiu, Chung-Yu Lu, Ting-Yi Su, Rong-Tan Huang, Herbert Zirath, Niklas Rorsman, Edward Yi Chang

(Continued on third cover)



(Continued)

- 021002 **Effect of Al<sub>0.06</sub>Ga<sub>0.94</sub>N/GaN Strained-Layer Superlattices Cladding Underlayer to InGaN-Based Multi-Quantum Well Grown on Si(111) Substrate with AlN/GaN Intermediate Layer** (5 pages)  
Bin Abu Bakar Ahmad Shuhaimi, Arata Watanabe, Takashi Egawa
- 021003 **Influence of the Density of Crack-Initiating Defects on Crack Spacing for GaN Films on Si(111) Substrate** (5 pages)  
Bumjoon Kim, Samseok Jang, Junggeun Jhin, Seungjae Lee, Jong Hyeob Baek, Youngmoon Yu, Jaesang Lee, Dongjin Byun
- 021004 **High-Efficiency InGaN-Based Yellow-Green Light-Emitting Diodes** (3 pages)  
Mu-Jen Lai, Ming-Jer Jeng, Liann-Be Chang
- 021005 **Very Low Ohmic Contact Resistance through an AlGaIn Etch-Stop in Nitrogen-Polar GaN-Based High Electron Mobility Transistors** (3 pages)  
Nidhi, David F. Brown, Stacia Keller, Umesh K. Mishra
- 021101 **Effects of Additives on the Densification and Microwave Dielectric Properties of Binary CaO-B<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub> Glass** (5 pages)  
Sea-Fue Wang, Chuang-Chung Chiang, Yuh-Ruey Wang, Yung-Fu Hsu
- 021201 **Strain Effects on Exciton Transition in CdTe Films on GaAs(100) Substrates** (4 pages)  
Chikara Onodera, Masaaki Yoshida, Tsunemasa Taguchi
- 021501 **Direct Piezoelectric Properties of Mn-Doped ZnO Epitaxial Films** (3 pages)  
Takeshi Yoshimura, Haruka Sakiyama, Takeshi Oshio, Atsushi Ashida, Norifumi Fujimura
- 021502 **Comparison of Power Density Characteristics among Disk and Plate Shaped Piezoelectric Devices** (5 pages)  
Seyit O. Ural, Yuan Zhuang, Safakcan Tuncdemir, Kenji Uchino
- 021503 **Analysis on Loss Anisotropy of Piezoelectrics with  $\infty$  mm Crystal Symmetry** (6 pages)  
Yuan Zhuang, Seyit O. Ural, Safakcan Tuncdemir, Ahmed Amin, Kenji Uchino
- 021601 **Reduction of Hysteresis in Organic Field-Effect Transistor by Ferroelectric Gate Dielectric** (5 pages)  
Xiangyu Chen, Wei Ou-Yang, Martin Weis, Dai Taguchi, Takaaki Manaka, Mitsumasa Iwamoto

**Photonics, quantum electronics, optics, and spectroscopy**

- 022101 **Double Photonic Quasi-Crystal Structure Effect on GaN-Based Vertical-Injection Light-Emitting Diodes** (5 pages)  
Hung-Wen Huang, Chung-Hsiang Lin, Zhi-Kai Huang, Kang-Yuan Lee, Chang-Chin Yu, Hao-Chung Kuo
- 022102 **Demonstration of AlGaIn-Based Deep-Ultraviolet Light-Emitting Diodes on High-Quality AlN Templates** (4 pages)  
Yusuke Sakai, Youhua Zhu, Shigeaki Sumiya, Makoto Miyoshi, Mitsuhiro Tanaka, Takashi Egawa
- 022301 **Efficiency Improvement of Silicon Solar Cells by Nitric Acid Oxidization** (4 pages)  
Yeng-Cheng Hu, Ming-Hui Chiu, Likarn Wang, Jing-Long Tsai
- 022401 **Real-time, *In situ* Measurement of Fuel and Crossover Methanol Vapor Concentration of a Vapor-Fed Passive Direct Methanol Fuel Cell Using Laser Absorption Spectroscopy** (6 pages)  
Jinhwa Chung, Sungmoo Heo, Soonho Song, Jinho Kim, Sangkyun Kang, Kyoungwan Choi
- 022402 **High Resolution Imaging of Electrical Properties of a 2-Inch-Diameter Gallium Nitride Wafer Using Frequency-Agile Terahertz Waves** (5 pages)  
Akihide Hamano, Seigo Ohno, Hiroaki Minamide, Hiromasa Ito, Yoshiyuki Usuki
- 022403 **Reflectance Difference Spectroscopy in Vacuum-Ultraviolet Range: Developing Measurement System and Applying to Characterization of SiO<sub>2</sub>/Si Interfaces** (7 pages)  
Shoichi Ogata, Shinya Ohno, Masatoshi Tanaka, Tsuyoshi Horikawa, Tetsuji Yasuda
- 022501 **Computational Depth Conversion of Reconstructed Three-Dimensional Object Images in Curving-Effective Integral Imaging System** (7 pages)  
Yongri Piao, Dong-Hak Shin, Eun-Soo Kim
- 022502 **Thermal Characteristics of an Ytterbium-Doped Fiber Amplifier Operating at 1060 and 1080 nm** (5 pages)  
Luis Alonso Vazquez-Zuniga, Seunghwan Chung, Yoonchan Jeong
- 022503 **Fast Computational Integral Imaging Reconstruction Method Using a Fractional Delay Filter** (6 pages)  
Hoon Yoo, Dong-Hak Shin

(Continued on preceding page)

**Japanese Journal of Applied Physics** Vol. 49, No. 2 (2010)

発行 社団法人 応用物理学会  
印刷 小宮山印機工業株式会社  
2010年2月25日発行

〒102-0073 東京都千代田区九段北1丁目12番3号 井門九段北ビル 電話 03-3238-1041  
〒162-0808 東京都新宿区天神町78番地 電話 03-3260-5211

国内定価 10 000 円 年額 180 000 円 (JJAP & APEX)  
正会員学会会員の購読料は JJAP 付加会費として各学会の会費に含む。

(Continued)

- 022504 **Design of Broadband Visible or Near-Infrared Antireflection Coating Based on Vibrating Search Approach** (5 pages)  
Yeuh-Yeong Liou, Wen-Ben Huang, Shau-Kuei Wang, Wen-Long Liu, Cheng-Chung Jaing
- 022601 **Crystal Growth and Luminescence Properties of Tm:BaF<sub>2</sub> Single Crystals** (6 pages)  
Naoto Abe, Yuui Yokota, Takayuki Yanagida, Jan Pejchal, Fumiko Nara, Noriaki Kawaguchi, Kentaro Fukuda, Martin Nikl, Akira Yoshikawa
- 022602 **Evidence of the Inhomogeneous Ce<sup>3+</sup> Distribution across Grain Boundaries in Transparent Polycrystalline Ce<sup>3+</sup>-Doped (Gd,Y)<sub>3</sub>Al<sub>5</sub>O<sub>12</sub> Garnet Optical Ceramics** (6 pages)  
Wei Zhao, Cedric Mancini, David Amans, Georges Boulon, Thierry Epicier, Yin Min, Hideki Yagi, Takagimi Yanagitani, Takayuki Yanagida, Akira Yoshikawa
- 022701 **Optimal Charge of a Photocathode Gun for a Compact X-ray Free-Electron Laser** (4 pages)  
Tae-Yeon Lee, Moon Sik Chae, In Soo Ko
- 022702 **Microjoule Pulses from a High-Efficient Ytterbium-Doped Yttrium Aluminum Garnet Chirped-Pulse Oscillator** (4 pages)  
Yinghong Xue, Sadao Uemura, Kenji Torizuka
- 022703 **Surface-Enhanced Raman Scattering Substrate Fabricated by Femtosecond Laser Induced Co-deposition of Silver Nanoparticles and Fluorescent Molecules** (4 pages)  
Zenghui Zhou, Jian Xu, Fei He, Yang Liao, Ya Cheng, Koji Sugioka, Katsumi Midorikawa

**Spintronics, superconductivity, and strongly correlated materials**

- 023001 **Controllable Magnetization Processes Induced by Nucleation Sites in Permalloy Rings** (4 pages)  
Ying-Jiun Chen, Chia-Jung Hsu, Chun-Neng Liao, Hao-Ting Huang, Chiun-Peng Lee, Yi-Hsun Chiu, Tzu-Yun Tung, Mei-Feng Lai
- 023002 **Domain Wall Dynamics under an In-Plane Rotating Magnetic Field in a Nanowire with Perpendicular Magnetic Anisotropy** (4 pages)  
Sung Chul Lee, Young Jin Cho, Ung Hwan Pi, Ji Young Bae, Jinseong Heo, Sunae Seo, Jae Kwang Shin, Taek Dong Lee
- 023101 **Superconductivity of FeSe<sub>0.5</sub>Te<sub>0.5</sub> Thin Films Grown by Pulsed Laser Deposition** (5 pages)  
Yoshinori Imai, Ryo Tanaka, Takanori Akiike, Masafumi Hanawa, Ichiro Tsukada, Atsutaka Maeda

**Device physics**

- 024201 **Single-Phase Drive Linear Ultrasonic Motor with Perpendicular Electrode Vibrator** (7 pages)  
Shih-Wei Hsiao, Mi-Ching Tsai
- 024202 **Electron Emission from Cross-Sectional Surface of Porous Si on Glass Substrate** (4 pages)  
Katsuya Higa
- 024203 **Minimization of Gate-Induced Drain Leakage by Controlling Gate Underlap Length for Low-Standby-Power Operation of 20-nm-Level Four-Terminal Silicon-on-Insulator Fin-Shaped Field Effect Transistor** (5 pages)  
Seongjae Cho, Shinichi O'uchi, Kazuhiko Endo, Takashi Matsukawa, Kunihiro Sakamoto, Yongxun Liu, Byung-Gook Park, Meishoku Masahara
- 024204 **Influence of Effective Fixed Charges on Short-Channel Effects in SiC Metal-Oxide-Semiconductor Field-Effect Transistors** (4 pages)  
Masato Noborio, Jun Suda, Tsunenobu Kimoto
- 024205 **Combined Microfluidic-Electric Diffused Mixing of Living Cells in Continuous Flow** (8 pages)  
Ming-Wen Wang
- 024206 **Dual-Gate Field-Effect Transistor Hydrogen Gas Sensor with Thermal Compensation** (5 pages)  
Keiji Tsukada, Masatoshi Kariya, Tomiharu Yamaguchi, Toshihiko Kiwa, Hironobu Yamada, Tsuneyoshi Maehara, Tadayoshi Yamamoto, Shinsuke Kunitsugu
- 024207 **Liquid Crystal Device with Nanopatterned Indium-Zinc-Oxide Layer** (4 pages)  
Hyun Jin Kim, Jong Geol Lee, Hyun Gi Kim, Suk-Won Choi, Sung Soo Kim
- 024301 **Numerical Analysis of Vacancy Transport by Residual Stress in Electromigration on LSI Interconnects** (7 pages)  
Takenao Nemoto, Toshimitsu A. Yokobori, Jr., Tsutomu Murakawa, Hideo Miura
- 024302 **Monte Carlo Analysis of Base Transit Times of InP/GaInAs Heterojunction Bipolar Transistors with Ultrathin Graded Bases** (3 pages)  
Takafumi Uesawa, Masayuki Yamada, Yasuyuki Miyamoto, Kazuhito Furuya

(Continued on preceding page)



(Continued)

024303 **An Accurate and Simplified Modeling of Energy and Momentum Relaxation Rates for Metal–Oxide–Semiconductor Device Simulation** (8 pages)  
Ken Yamaguchi, Shogo Sakurai, Kazutaka Tomizawa

024304 **An Efficient Quantum-Based Model for the Threshold Voltage of Thin Film Double Gate/Silicon on Insulator Silicon Metal Oxide Semiconductor Field Effect Transistors** (8 pages)  
Saeed Mohammadi, Ali Afzali-Kusha

#### **Nanoscale science and technology**

025001 **Formation of Ge Nanosheets Decorated Hierarchical ZnSe/GeSe Nanowire Heterostructures** (4 pages)  
Qingqing Xie, Chunrui Wang, Xiaofeng Xu, Jian Liu, Jing Zhang

025002 **Multilayered Three-Dimensional Structures of Ag Nanoparticles in Anodic Porous Alumina** (3 pages)  
Toshiaki Kondo, Kazuyuki Nishio, Hideki Masuda

025003 **Site-Selective Cutting of Carbon Nanotubes by Laser Heated Silicon Tip** (4 pages)  
Alvarado Tarun, Norihiko Hayazawa, Satoshi Kawata

025004 **Effects of Nanoscaled Tin-Doped Indium Oxide on the Image Sticking Property of Liquid Crystal Cells** (6 pages)  
Bau-Jy Liang, Don-Gey Liu, Wun-Yi Shie, Sy-Ruen Huang

025101 **Performance of Zero-Schottky-Barrier and Doped Contacts Single and Double Walled Carbon Nanotube Transistors** (6 pages)  
Md. Abdul Wahab, Khairul Alam

025201 **Bias Potential for Tip–Plane Systems in Kelvin Probe Force Microscopy Imaging of Non-uniform Surface Potential Distributions** (6 pages)  
Krzysztof Sajewicz, Franciszek Krok, Jerzy Konior

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

025501 **Stress in Tin-Doped Indium Oxide Thin Films Formed on Substrates by Sputtering** (8 pages)  
Hideshi Nomura, Kazuharu Shimizu

025502 **Synthesis and Characterization of Single Crystal NiMnSb** (4 pages)  
Fangfang Wang, Tadashi Fukuhara, Kunihiro Maezawa, Katsuhiko Nishimura, Fumihiko Shimizu, Shinichi Masubuchi

025503 **X-ray Study of Step Induced Lateral Correlation Lengths in Thin AlGaIn Nucleation Layers** (3 pages)  
Matthias Wieneke, Jürgen Bläsing, Armin Dadgar, Alois Krost

025504 **Epitaxial Growth of High-Resistivity CdTe Thick Films Grown Using a Modified Close Space Sublimation Method** (4 pages)  
Quanzhong Jiang, Andy W. Brinkman, Perumal Veeramani, Paul. J. Sellin

025505 **Epitaxial Growth and Electrical Properties of Thick SmSi<sub>2</sub> Layers on (001) Silicon** (3 pages)  
Franck Natali, Natalie O. V. Plank, Bart M. Ludbrook, Jan Richter, Thom Minnee, Ben J. Ruck, H. Joe Trodahl, John V. Kennedy, Lionel Hirsch

025701 **Comparison of Surface Modifications by Wet and Dry Methods on Indium Tin Oxide Using Self-Assembled Monolayers** (5 pages)  
Seung Hyun Jee, Soo Ho Kim, Hoon Park, Dong-Joo Kim, Young Soo Yoon

025702 **Studies of Thermal Conductivity of Gd<sub>2</sub>Zr<sub>2</sub>O<sub>7</sub> and Diamond-Like Carbon Films and the Interfacial Effect** (4 pages)  
Jun-Gu Kang, Kyong-Soo Hong, Ho-Soon Yang

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

026001 **Propagation of a Light-Emitting Wave-Front in a Fine Tube Positive Column Discharge** (6 pages)  
Jong-Mun Jeong, Jung-Hyun Kim, Hachung Hwang, Dong-Jun Jin, Je-Huan Koo, Eun-Ha Choi, John P. Verboncoeur, Han Sup Uhm, Guangsup Cho

026101 **Absolute Densities of N<sub>2</sub>(A<sup>3</sup>Σ<sub>u</sub><sup>+</sup>), N(<sup>4</sup>S<sup>o</sup>), and N(<sup>2</sup>D<sup>o</sup>) in an Inductively Coupled Nitrogen Plasma Source** (6 pages)  
Yoshimine Horikawa, Kazuaki Kurihara, Koichi Sasaki

026102 **Comparison of Properties of Atmospheric-Pressure Radio Frequency He/SF<sub>6</sub>/O<sub>2</sub> and He/CF<sub>4</sub>/O<sub>2</sub> Discharges** (6 pages)  
Takashi Kimura, Hiroki Tanahashi

(Continued on preceding page)

(Continued)

**Device processing, fabrication and measurement technologies, and instrumentation**

- 026501 **Investigating Effect of Conditioner Aggressiveness on Removal Rate during Interlayer Dielectric Chemical Mechanical Planarization through Confocal Microscopy and Dual Emission Ultraviolet-Enhanced Fluorescence Imaging (7 pages)**  
Ting Sun, Len Borucki, Yun Zhuang, Yasa Sampurno, Fransisca Sudargho, Xiaomin Wei, Sriram Anjur, Ara Philipossian
- 026502 **Evaluation of the Strain around an Isolated Shallow Trench and the Impact of Stress on LSI Device Performance (7 pages)**  
Koji Fukumoto, Shuichi Kudo, Yoshifumi Ogawa, Fumihito Ota, Tetsuya Uchida, Keisuke Tsukamoto, Takashi Takeuchi, Toru Koyama, Junko Komori, Hidekazu Yamamoto, Yoji Mashiko
- 026503 **Ge<sub>2</sub>Sb<sub>2</sub>Te<sub>5</sub> Phase Change Memory Cell Featuring Platinum Tapered Heating Electrode For Low-Voltage Operation (4 pages)**  
Shilong Lv, Zhitang Song, Yan Liu, Songlin Feng
- 026601 **Time-of-Flight Analysis of Three-Dimensional Imaging Laser Radar Using A Geiger-Mode Avalanche Photodiode (6 pages)**  
Min Seok Oh, Hong Jin Kong, Tae Hoon Kim, Keun Ho Hong, Byung Wook Kim, Dong Jo Park
- 026602 **Ultrasonic Microspectroscopy of ZnO Single Crystals Grown by the Hydrothermal Method (8 pages)**  
Jun-ichi Kushibiki, Yuji Ohashi, Mototaka Arakawa, Tomoya Tanaka, Sho Yoshida, Yuusuke Kourai, Noboru Sakagami

**Cross-disciplinary areas**

- 027001 **Energy-Discriminating Gadolinium K-Edge X-ray Computed Tomography System (6 pages)**  
Hiroshi Matsukiyo, Manabu Watanabe, Eiichi Sato, Akihiro Osawa, Toshiyuki Enomoto, Jiro Nagao, Purkhet Abderyim, Katsuo Alzawa, Keitaro Hitomi, Etsuro Tanaka, Hidezo Mori, Toshiaki Kawai, Akira Ogawa, Kiyomi Takahashi, Shigehiro Sato, Jun Onagawa

**Brief Notes**

- 028001 **Do Sidewall Quantum Wells Exist in GaInN-Based Light-Emitting Diodes? (2 pages)**  
Kai Ding, Yiping Zeng
- 028002 **Amorphous In-Sn-Si-O Thin-Film Transistors Having Various Si Compositional Ratios (2 pages)**  
Kazushige Takechi, Mitsuru Nakata, Shinya Yamaguchi, Hiroshi Tanabe, Setsuo Kaneko
- 028003 **Switching Characteristics of Silica Nanoparticle-Doped Dual-Mode Liquid Crystal Device (2 pages)**  
Chi-Yen Huang, Chien-Cheng Lai, Yi-Jen Huang, Jian-Hong Chen
- 028004 **Preparation of Superconducting Niobium Tips for Atomic-Resolution Scanning Tunneling Microscopy/Spectroscopy (2 pages)**  
Ryota Shimizu, Taro Hitosugi, Tomihiro Hashizume, Noritaka Fukuo, Tetsuya Hasegawa