

LETTERS

Single mineral particle makes an electron point source

Evelyne Salançon, Rachid Daineche, Olivier Grauby and Roger Morin

J. Vac. Sci. Technol. B **33**, 030601 (2015); <http://dx.doi.org/10.1116/1.4916237>

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Transfer of nanopantography-defined patterns using highly selective plasma etching

Siyuan Tian, Vincent M. Donnelly and Demetre J. Economou

J. Vac. Sci. Technol. B **33**, 030602 (2015); <http://dx.doi.org/10.1116/1.4918716>

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Properties of bottom and top channel interfaces in double-gate back-channel-etched amorphous indium-gallium-zinc oxide thin-film transistors

Chan-Yong Jeong, Daeun Lee, Sang-Hun Song, Jong In Kim, Jong-Ho Lee, Jae-Gwang Um, Jin Jang and Hyuck-In Kwon

J. Vac. Sci. Technol. B **33**, 030603 (2015); <http://dx.doi.org/10.1116/1.4919234>

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Domain fracture and recovery process of metal phthalocyanine monolayers via NO₂ and H₂O

Jun Hong Park, Sangyeob Lee and Andrew C. Kummel

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ELECTRONIC & OPTOELECTRONIC MATERIALS, DEVICES & PROCESSING

Comparison of crystalline-silicon/amorphous-silicon interface prepared by plasma enhanced chemical vapor deposition and catalytic chemical vapor deposition

Hideki Matsumura, Koichi Higashimine, Koichi Koyama and Keisuke Ohdaira

J. Vac. Sci. Technol. B **33**, 031201 (2015); <http://dx.doi.org/10.1116/1.4915494>

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Thickness modulation effects of Al₂O₃ capping layers on device performance for the top-gate thin-film transistors using solution-processed poly(4-vinyl phenol)/Zn-Sn-O gate stacks

Kyeong-Ah Kim, Jun-Yong Bak, Sung-Min Yoon, Seong Jip Kim, Sunho Jeong, Youngmin Choi and Soon-Won Jung

J. Vac. Sci. Technol. B **33**, 031202 (2015); <http://dx.doi.org/10.1116/1.4916021>

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Phase-control of a rising sun magnetron using a modulated, addressable, current source

Sulmer Fernandez-Gutierrez, Jim Browning, Ming-Chieh Lin, David N. Smithe and Jack Watrous

J. Vac. Sci. Technol. B **33**, 031203 (2015); <http://dx.doi.org/10.1116/1.4916631>

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Investigating the effect of thermal annealing on dc performance of off-state drain-voltage step-stressed AlGaIn/GaN high electron mobility transistors

Byung-Jae Kim, Shihyun Ahn, Ya-Hsi Hwang, Fan Ren, Stephen J. Pearton, Jihyun Kim and Ming-Lan Zhang

J. Vac. Sci. Technol. B **33**, 031204 (2015); <http://dx.doi.org/10.1116/1.4916882>

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Photoresponse of an oxide semiconductor photosensor

Seung-Eon Ahn, Sungho Park, Taeho Kim, Junghak Park and Sanghun Jeon

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In-situ monitoring of etch uniformity using plasma emission interferometry

Vladimir Samara, Jean-Francois de Marneffe, Ziad el Otell and Demetre J. Economou

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Design, fabrication, and optical characteristics of freestanding GaN waveguides on silicon substrate

Takuji Sekiya, Takashi Sasaki and Kazuhiro Hane

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Diamond film deposited on Mo-Re alloy by hot filament chemical vapor deposition with periodic magnetic field

Xiaobin Wu, Tagen Dai and Zhiming Yu

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MBE growth of sharp interfaces in dilute-nitride quantum wells with improved nitrogen-plasma design

Gopi Krishna Vijaya, Alex Freundlich, Dinghao Tang and David J. Smith

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Study of the effects of GaN buffer layer quality on the dc characteristics of AlGaIn/GaN high electron mobility transistors

Shihyun Ahn, Weidi Zhu, Chen Dong, Lingcong Le, Ya-Hsi Hwang, Byung-Jae Kim, Fan Ren, Stephen J. Pearton, Aaron G. Lind, Kevin S. Jones, I. I. Kravchenko and Ming-Lan Zhang

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Influence of composite oxidation on electron emission characteristics of thick porous silicon

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Degradation mechanisms of Ti/Al/Ni/Au-based Ohmic contacts on AlGaIn/GaN HEMTs

Ya-Hsi Hwang, Shihyun Ahn, Chen Dong, Weidi Zhu, Byung-Jae Kim, Lingcong Le, Fan Ren, Aaron G. Lind, James Dahl, Kevin S. Jones, Stephen J. Pearton, Ivan I. Kravchenko and Ming-Lan Zhang

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Investigation on the friction coefficient between graphene-coated silicon and glass using barrel compression test

Jian Zhou, Peng He, Jianfeng Yu, Ly James Lee, Lianguan Shen and Allen Y. Yi

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Electron emission properties of Cs₃Sb photocathode emitters in a panel device

Hyo-Soo Jeong, Kris Keller and Brad Culkin

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LITHOGRAPHY

Protection of extreme ultraviolet lithography masks. I. Thermophoretic protection factors at low pressure for diffusing nanoscale particles

Leonard E. Klebanoff, Anthony S. Geller, John R. Torczynski, Michael A. Gallis, Daniel J. Rader, Frank C. Chilese, Rudy F. Garcia and Gil Delgado

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Protection of extreme ultraviolet lithography masks. II. Showerhead flow mitigation of nanoscale particulate contamination

Leonard E. Klebanoff, John R. Torczynski, Anthony S. Geller, Michael A. Gallis, Daniel J. Rader, Frank C. Chilese, Rudy F. Garcia and Gil Delgado

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NANOMETER SCIENCE & TECHNOLOGY

Conductive-AFM topography and current maps simulator for the study of polycrystalline high-k dielectrics

Carlos Couso, Marc Porti, Javier Martin-Martinez, Vanessa Iglesias, Montserrat Nafria and Xavier Aymerich
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Artifacts related to tip asymmetry in high-resolution atomic force microscopy and scanning tunneling microscopy measurements of graphitic surfaces

Berkin Uluutku and Mehmet Z. Baykara

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Alkaline and ultrasonic dissolution of biological materials for trace silicon determination

Robert D. Viveros, Alexander Liberman, William C. Trogler and Andrew C. Kummel

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Dielectrophoretic manipulation of individual nickel nanowires for electrical transport measurements

Marcos V. Puydinger dos Santos, Lucas P. B. Lima, Rafael A. Mayer, Fanny Béron, Kleber R. Pirota and Jose A. Diniz

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Sputter deposition of thermochromic VO₂ films on In₂O₃:Sn, SnO₂, and glass: Structure and composition versus oxygen partial pressure

José Montero, Yu-Xia Ji, Shu-Yi Li, Gunnar A. Niklasson and Claes G. Granqvist

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Interactions of higher order tip effects in critical dimension-AFM linewidth metrology

Ronald Dixon, Boon Ping Ng, Xavier Bonnaud and Ndubuisi Orji

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Fast and accurate solution of inverse problem in optical scatterometry using heuristic search and robust correction

Jinlong Zhu, Hao Jiang, Yating Shi, Chuanwei Zhang, Xiuguo Chen and Shiyuan Liu

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MICROELECTRONIC & NANOELECTRONIC DEVICES

Hole trap distribution on 2 MeV electron irradiated high-k dielectrics

Salvador Dueñas, Helena Castán, Héctor García, Lisa María Fuentes, Luis

Bailón, Francesca Campabadal, Joan Marc Rafí, Mireia Bargalló González, Kenitirou Takakura, Isao Tsunoda and Masashi Yoneoka
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Silicon etching in a pulsed HBr/O₂ plasma. I. Ion flux and energy analysis

Moritz Haass, Maxime Darnon, Gilles Cunge, Olivier Joubert and David Gahan
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Silicon etching in a pulsed HBr/O₂ plasma. II. Pattern transfer

Moritz Haass, Maxime Darnon, Gilles Cunge and Olivier Joubert
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Effect of aliovalent impurities on the resistance switching characteristics of sputtered hafnium oxide films

Kyumin Lee, Youngjae Kim, Heedo Na and Hyunchul Sohn
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Filamentary bipolar electric pulse induced resistance switching in amorphous silicon resistive random access memory

Rabi Ebrahim, Ramasahayam Mithun Kumar, Nacer Badi, Naijuan Wu and Alex Ignatiev
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Lanthanum quantification for optimization of advanced high-k/metal gate stacks using low energy electron x-ray emission spectrometry

Eugénie Martinez, François Bertin, C. Trouiller, P. Caubet, M. P. Moret, A.-S. Robbes, K.-A. Bui-T Meura, O. Dulac and N. Morel
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ORGANIC ELECTRONICS AND OPTOELECTRONICS

Surface analytical investigation on organometal triiodide perovskite

Chenggong Wang, Xiaoliang Liu, Congcong Wang, Zhengguo Xiao, Cheng Bi, Yuchuan Shao, Jinsong Huang and Yongli Gao
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Improved performance of GaN-based light emitting diodes with nanopatterned sapphire substrates fabricated by wet chemical etching

Chong Geng, Qingfeng Yan, Peng Dong, Liang Shan, Chengxiao Du, Tongbo

Wei and Zhibiao Hao

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Ionizing radiation induced parametric variations in P3HT:PCBM organic photovoltaic cells

Camron Kouhestani, Duc D. Nguyen, Kenneth E. Kambour, Roderick A. B. Devine, Johnny Chen, Gang Li and Yang Yang

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Transient measurements of carrier relaxation time and density in the P3HT:PCBM organic photovoltaic cell

Camron Kouhestani, Duc D. Nguyen, Kenneth E. Kambour, Roderick A. B. Devine, Johnny Chen, Gang Li and Yang Yang

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SPINTRONICS AND MAGNETIC DEVICES

Effect of O₂ on etch characteristics of Co₂MnSi thin films in CH₄/O₂/Ar gas mixture

Su Min Hwang, Adrian Adalberto Garay and Chee Won Chung

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27TH INTERNATIONAL VACUUM NANOELECTRONICS CONFERENCE (27TH IVNC 2014)

Fiber tip-based electron source

Albert Casandruc, Günther Kassier, Haider Zia, Robert Bücken and R. J. Dwayne Miller

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On the mechanism of improvement of field emission properties of carbon-coated field emitters

Toshiharu Higuchi, Masahiro Sasaki, Shota Horie, Yoichi Yamada, Shuji Matsumoto and Shigeki Fukuda

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Integration of a MEMS-type vacuum pump with a MEMS-type Pirani pressure gauge

Tomasz Grzebyk, Anna Górecka-Drzazga, Jan A. Dziuban, Khodr Maamari, Seyoung An, Tatjana Dankovic, Alan Feinerman and Heinz Busta

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Statistical dispersion of nanocomposite emission parameters

Anatoly G. Kolosko, Eugeni O. Popov, Sergey V. Filippov and Pavel A. Romanov
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Photoemission properties of nanocrystalline diamond thin films on silicon

Jean-Paul Mazellier, Cyril Di Giola, Pierre Legagneux, Clément Hébert, Emmanuel Scorsone, Philippe Bergonzo and Samuel Saada
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Photosensitive field emission study of SnS₂ nanosheets

Padmashree D. Joshi, Dilip S. Joag, Chandra Shekhar Rout and Dattatray J. Late
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Stable, ruggedized, and nanometer-order size transfer mold field emitter array in harsh oxygen radical environment

Masayuki Nakamoto and Jonghyun Moon
J. Vac. Sci. Technol. B **33**, 03C107 (2015); <http://dx.doi.org/10.1116/1.4905046>

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Thermal field forming of Spindt cathode arrays

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Mass-spectrum investigation of the phenomena accompanying field electron emission

Eugeni O. Popov, Anatoly G. Kolosko, Sergey V. Filippov, Igor L. Fedichkin and Pavel A. Romanov
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Modeling of microwave diode on diamond like coating Si cathode

N. M. Goncharuk and N. F. Karushkin
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Field emission beam characteristics of single metal nanotip cathodes with on-chip collimation gate electrode

Chiwon Lee, Pratyush Das Kanungo, Vitaliy Guzenko, Patrick Hefenstein, R. J. Dwayne Miller and Soichiro Tsujino
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Numerical study of the laser-tip coupling in surface plasmon assisted stacked-double-gate field emitter arrays

Youngjin Oh, Anna Mustonen, Thomas Feurer and Soichiro Tsujino

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Electron beam collimation from an all-metal double-gate 40 000 nanotip array: Improved emission current and beam uniformity upon neon gas conditioning

Pratyush Das Kanungo, Patrick Helfenstein, Vitaliy Guzenko, Chiwon Lee, Martin Paraliev and Soichiro Tsujino

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Photoelectron spectra of finite-thickness layers

Viktor P. Afanas'ev, Olga Y. Golovina, Alexander S. Gryazev, Dmitry S. Efremenko and Pavel S. Kaplya

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Dimerization of 4-cyano-4'-n-pentylbiphenyl in vacuum and under constant electric field^{a)}

Tatiana Andreeva, Marina Bedrina and Nikolay Egorov

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