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## **Interaction study of nitrogen ion beam with silicon**

Marek E. Schmidt, Xiaobin Zhang, Yoshifumi Oshima, Le The Anh, Anto Yasaka more...

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 03D101 (2017); <http://doi.org/10.1116/1.4977566>

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## **Method for patterning poly(acrylic acid) sacrificial layers for use in solder-based self-assembly**

Connor S. Smith, Ying Feng, and Susan L. Burkett

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 03D102 (2017); <http://doi.org/10.1116/1.4979004>

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## **Probing kinetically excited hot electrons using Schottky diodes**

Dhruva D. Kulkarni, Daniel A. Field, Daniel B. Cutshall, James E. Harriss, William R. Harrell more...

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## **Study of device instability of bottom-gate ZnO transistors with sol-gel derived channel layers**

Kosala Yapabandara, Vahid Mirkhani, Muhammad Shehzad Sultan, Burcu Ozden, Min P. Khanal more...

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 03D104 (2017); <http://doi.org/10.1116/1.4979321>

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**X-ray analysis of metamorphic  $\text{In}_x\text{Ga}_{1-x}\text{As}/\text{In}_y\text{Ga}_{1-y}\text{As}$  superlattices on GaAs (001) substrates**

Fahad A. Althowibi, and John E. Ayers

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 03D105 (2017); <http://doi.org/10.1116/1.4979323>

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**Polydimethylsiloxane and polyisoprene-based graphene composites for strain-sensing**

Jorge A. Catalán, and Anupama B. Kaul

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 03D106 (2017); <http://doi.org/10.1116/1.4979603>

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**Electrical and optical characteristics of gamma-ray irradiated AlGaN/GaN high electron mobility transistors**

Min P. Khanal, Burcu Ozden, Kyunghyuk Kim, Sunil Uprety, Vahid Mirkhani more...

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# **Simulated x-ray diffraction from pseudomorphic GaAs/In<sub>0.3</sub>Ga<sub>0.7</sub>As superlattice high electron mobility transistor heterostructures on GaAs (001) substrates**

Fahad A. Althowibi, and John E. Ayers

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 03D108 (2017); <http://doi.org/10.1116/1.4981015>

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## **Periodically pulsed laser-assisted tunneling may generate terahertz radiation**

Mark J. Hagmann, Dmitriy G. Coombs, and Dmitry A. Yarotski

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## **Enhancing the electrical conductivity of vacuum-ultraviolet-reduced graphene oxide by multilayered stacking**

Yudi Tu, Toru Utsunomiya, Takashi Ichii, and Hiroyuki Sugimura

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 03D110 (2017); <http://doi.org/10.1116/1.4982722>

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## **Investigation of structural morphology and electrical properties of graphene-C<sub>60</sub>hybrids**

Srishti Chugh, Chandan Biswas, Luis Echehoven, and Anupama B. Kaul

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**Inkjet printing of liquid-exfoliated, highly conducting graphene/poly(3,4 ethylenedioxythiophene):poly(styrenesulfonate) nanosheets for organic electronics**

Jay A. Desai, Chandan Biswas, and Anupama B. Kaul

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 03D112 (2017); <http://doi.org/10.1116/1.4982723>

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**Electrical behavior of  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> Schottky diodes with different Schottky metals**

Yao Yao, Raveena Gangireddy, Jaewoo Kim, Kalyan Kumar Das, Robert F. Davis more...

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 03D113 (2017); <http://doi.org/10.1116/1.4980042>

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**Employing refractive beam shaping in a Lloyd's interference lithography system for uniform periodic nanostructure formation**

Yung-Jr Hung, Han-Jung Chang, Ping-Chien Chang, Jia-Jin Lin, and Tzu-Chieh Kao

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 030601 (2017); <http://doi.org/10.1116/1.4980134>

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## **Low temperature carrier transport mechanism in high-mobility zinc oxynitride thin-film transistors**

Hee-Joong Kim, Sae-Young Hong, Dae-Hwan Kim, Hwan-Seok Jeong, and Hyuck-In Kwon

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 030602 (2017); <http://doi.org/10.1116/1.4983528>

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## **Review Article: Overview of lanthanide pnictide films and nanoparticles epitaxially incorporated into III-V semiconductors**

Cory C. Bomberger, Matthew R. Lewis, Laura R. Vanderhoef, Matthew F. Doty, and Joshua M. O. Zide

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 030801 (2017); <http://doi.org/10.1116/1.4979347>

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## **Review Article: Advanced nanoscale patterning and material synthesis with gas field helium and neon ion beams**

Michael G. Stanford, Brett B. Lewis, Kyle Mahady, Jason D. Fowlkes, and Philip D. Rack

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## **Review Article: Progress in fabrication of transition metal dichalcogenides heterostructure systems**

Rui Dong, and Irma Kuljanishvili

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## **Electronic & Optoelectronic Materials, Devices & Processing**

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### **Incorporation of dopants in epitaxial SiC layers grown with fluorinated CVD chemistry**

Pontus Stenberg, Erik Janzén, and Henrik Pedersen

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 031201 (2017); <http://doi.org/10.1116/1.4979279>

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### **Planar nanowires fabricated by thermal gratings on the GaAs(001) surface**

Anahita Haghizadeh, and Haeyeon Yang

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### **Investigation on deep level defects in polycrystalline ZnO thin films**

Christos Tsiarapas, Dimitra Girginoudi, Evangelos Ioannou Dimitriadis, and Nikolaos Georgoulas

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## **Study of tungsten films deposited by DC sputtering dedicated to integrated heaters**

Nathalie Verbrugghe, Didier Fasquelle, Benoît Duponchel, and Stéphanie Députier

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## **Inductively coupled plasma etching of bulk, single-crystal Ga<sub>2</sub>O<sub>3</sub>**

Jiancheng Yang, Shihyun Ahn, Fan Ren, Stephen Pearton, Rohit Khanna more...

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## **High quality semicontinuous deep reactive ion etching of silicon for the creation of x-ray lenses**

Karola Richter, André Mocker, and Johann-Wolfgang Bartha

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## **Preparation and effects of O<sub>2</sub> flow on the electrical characteristics of Li doped MgZnO thin film transistors**

Longjie Tian, Song Gao, Yaobin Ma, Qi Wang, Dongzhan Zhou more...

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## **1.5 MeV electron irradiation damage in $\beta$ -Ga<sub>2</sub>O<sub>3</sub> vertical rectifiers**

Jiancheng Yang, Fan Ren, Stephen J. Pearton, Gwangseok Yang, Jihyun Kim more...

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## **Optimized process for fabrication of free-standing silicon nanophotonic devices**

Paul Seidler

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## **Energy Conversion and Storage Devices**

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## **Structural and optical properties of alumina passivated amorphous Si slanted columnar thin films during electrochemical Li-ion intercalation and deintercalation observed by *in situ* generalized spectroscopic ellipsometry**

Derek Sekora, Rebecca Y. Lai, Daniel Schmidt, Mathias Schubert, and Eva Schubert

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## Lithography

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### **Exploring the fabrication of Co and Mn nanostructures with focused soft x-ray beam induced deposition**

Fan Tu, Andreas Späth, Martin Drost, Florian Vollnhals, Sandra Krick Calderon more...

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### **Effect of resin accumulation on filling process in roll-to-roll UV imprint lithography**

Youquan Zhou, Mujun Li, Lianguan Shen, Huichun Ye, Jianping Wang more...

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### **SiC emitters for nanoscale vacuum electronics: A systematic study of cathode–anode gap by focused ion beam etching**

Meng Liu, Tie Li, and Yuelin Wang

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## **ToF-SIMS quantification of bromine based insecticide in mosquito netting**

Chuanzhen Zhou, Fred A. Stevie, and Stephen C. Smith

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### **Nanodiamond vacuum field emission microtriode**

Shao-Hua Hsu, Weng Poo Kang, Supil Raina, Mick Howell, and Jin-Hua Huang

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 032201 (2017); <http://doi.org/10.1116/1.4981018>

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### **Current conduction mechanisms through thin tunnel oxide during erase operation of flash electrically erasable programmable read-only memory devices**

Piyas Samanta

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## **Voltage-amplitude-controlled complementary and self-compliance bipolar resistive switching of slender filaments in Pt/HfO<sub>2</sub>/HfO<sub>x</sub>/Pt memory devices**

Mei Yang, Hong Wang, Xiaohua Ma, Haixia Gao, and Yue Hao

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 032203 (2017); <http://doi.org/10.1116/1.4983193>

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## **Organic Electronics and Optoelectronics**

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## **Simulation and characterization of short-channel organic thin-film transistors fabricated using ink-jet printing and an imprint process**

Juhyun Bae, Kyohyeok Kim, Namyong Kwon, and Isub Chung

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 032401 (2017); <http://doi.org/10.1116/1.4981930>

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## **Circuit design considerations for current preamplifiers for scanning tunneling microscopy**

Jacob P. Petersen, and S. Alex Kandel

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# **Handling, transfer, storage, and shipping of commercial thin film hydride disk target samples**

James L. Provo

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