

FullSeptember 2017

### **Impact of fast transient charging and ambient on mobility of WS<sub>2</sub> field-effect transistor**

Junghak Park, Hyunsuk Woo, and Sanghun Jeon

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 050601 (2017); <https://doi.org/10.1116/1.4989781>

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### **Anodic porous alumina with square holes through lattice conversion of naturally occurring ordered structures**

Toshiaki Kondo, Hayato Miyazaki, Takashi Yanagishita, and Hideki Masuda

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 050602 (2017); <https://doi.org/10.1116/1.4999283>

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## **Review Articles**

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### **Review Article: Tunneling-based graphene electronics: Methods and examples**

Vsevolod L. Katkov, and Vladimir A. Osipov

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 050801 (2017); <https://doi.org/10.1116/1.4995380>

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

FullSeptember 2017

### **Annealing of dry etch damage in metallized and bare (-201) Ga<sub>2</sub>O<sub>3</sub>**

Jiancheng Yang, Fan Ren, Rohit Khanna, Kristen Bevin, Dwarakanath Geerapuram more...

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 051201 (2017); <https://doi.org/10.1116/1.4986300>

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### **Analysis of strain induced carrier confinement with varying passivation thickness of the Al<sub>0.3</sub>Ga<sub>0.7</sub>N/GaN heterostructure with graded Al<sub>x</sub>Ga<sub>1-x</sub>N buffer on Si (111) substrate**

Syed Mukulika Dinara, Saptarsi Ghosh, Sanjay Kr. Jana, Shubhankar Majumdar, Dhruves Biswas more...

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 051202 (2017); <https://doi.org/10.1116/1.4996735>

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### **Enhanced recrystallization and dopant activation of P<sup>+</sup>ion-implanted super-thin Ge layers by RF hydrogen plasma treatment**

Alexei N. Nazarov, Volodymyr O. Yukhymchuk, Yurii V. Gomeniuk, Sergiy B. Kryvyi, Pavel N. Okholin more...

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 051203 (2017); <https://doi.org/10.1116/1.4996139>

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### **Influence of different conditions on the electrical performance of amorphous InGaZnO thin-film transistors with HfO<sub>2</sub>/SiN<sub>x</sub> stacked dielectrics**

RuoZheng Wang, ShengLi Wu, DongBo Jia, Qiang Wei, and JinTao Zhang

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 051204 (2017); <https://doi.org/10.1116/1.4997416>

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### **Bottom profile degradation mechanism in high aspect ratio feature etching based on pattern transfer observation**

Nobuyuki Negishi, Masatoshi Miyake, Ken'etsu Yokogawa, Masatoshi Oyama, Tadamitsu Kanekiyo more...

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 051205 (2017); <https://doi.org/10.1116/1.4998943>

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### **Near-infrared laser annealing of Ge layers epitaxially grown on Si for high-performance photonic devices**

Sho Nagatomo, Yasuhiko Ishikawa, and Satohiko Hoshino

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 051206 (2017); <https://doi.org/10.1116/1.4995321>

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### **Effect of composition in Si<sub>1-x</sub>Ge<sub>x</sub> seed layer on the solid phase crystallization of ultrathin amorphous silicon layer**

Youngmo Kim, Seungbeom Baek, Yongwoon Jang, Jiwoo Park, and Hyunchul Sohn

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 051207 (2017); <https://doi.org/10.1116/1.4993801>

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## Energy Conversion and Storage Devices

FullSeptember 2017

### **Thermoelectric and optical properties of advanced thermoelectric devices from Ni/Bi<sub>2</sub>Te<sub>3</sub>/Ni and Ni/Sb<sub>2</sub>Te<sub>3</sub>/Ni thin films**

Satilmis Budak, Zhigang Xiao, Jordan Cole, Dennis Price, Tyler Davis more...

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 051401 (2017); <https://doi.org/10.1116/1.5001046>

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## Lithography

FullSeptember 2017

### **Electron beam lithography using fixed beam moving stage**

Iman Khodadad, Nathan Nelson-Fitzpatrick, Kevin Burcham, Arsen Hajian, and Simarjeet S. Saini

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 051601 (2017); <https://doi.org/10.1116/1.4997018>

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### **Fabrication of tungsten Fresnel zone plates for hard x-rays using wet etching**

Pragya Tiwari, Puspun Mondal, A. K. Srivastava, Himanshu Srivastava, Rajnish Dhawan more...

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 051602 (2017); <https://doi.org/10.1116/1.4999933>

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### **Proximity effect correction in electron-beam lithography based on computation of critical-development time with swarm intelligence**

Chun Nien, Li-Cheng Chang, Jia-Hao Ye, Vin-Cent Su, Chao-Hsin Wu more...

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 051603 (2017); <https://doi.org/10.1116/1.5001686>

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## Nanometer Science & Technology

FullSeptember 2017

## **Unexpected validity of Schottky's conjecture for two-stage field emitters: A response via Schwarz–Christoffel transformation**

Edgar Marcelino, Thiago A. de Assis, and Caio M. C. de Castilho

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 051801 (2017); <https://doi.org/10.1116/1.4989428>

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## ***In situ* resistance measurements during physical vapor deposition of ultrathin metal films on Si(111) at room temperature**

Bernhard Lutzer, Ole Bethge, Christina Zimmermann, Jürgen Smoliner, and Emmerich Bertagnolli

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 051802 (2017); <https://doi.org/10.1116/1.5001669>

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FullSeptember 2017

## **Nitride etching with hydrofluorocarbons. I. Selective etching of nitride over silicon and oxide materials by gas discharge optimization and selective deposition of fluorocarbon polymer**

Sebastian U. Engelmann, Robert L. Bruce, Eric A. Joseph, Nicholas C. M. Fuller, William S. Graham more...

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 051803 (2017); <https://doi.org/10.1116/1.5003824>

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## **MEMS & NEMS**

FullSeptember 2017

### **ScAlN etch mask for highly selective silicon etching**

Michael David Henry, Travis R. Young, and Ben Griffin

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 052001 (2017); <https://doi.org/10.1116/1.4994841>

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## **Microelectronic & Nanoelectronic Devices**

FullSeptember 2017

### **Extracting scaled barrier field from experiments with conducting large-area field emitters: Considerations by inclusion of the dependence between area of emission and the applied field**

Thiago A. de Assis, and Caio P. de Castro

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 052201 (2017); <https://doi.org/10.1116/1.4985646>

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FullSeptember 2017

### **Fabrication and comparative study of DC and low frequency noise characterization of GaN/AlGaN based MOS-HEMT and HEMT**

Md Rezaul Hasan, Abhishek Motayed, Md Shamiul Fahad, and Mulpuri V. Rao

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 052202 (2017); <https://doi.org/10.1116/1.4998937>

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FullSeptember 2017

### **Electrical analyses of GaN PIN diodes grown on patterned sapphire substrates**

Li-Wei Shan, Zhe-Yu Liu, Min-Pang Lin, Chia-Jui Yu, Kuang-Chien Hsieh more...

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 052203 (2017); <https://doi.org/10.1116/1.4997900>

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## **Shop Notes**

FullSeptember 2017

### **Minimizing open-loop piezoactuator nonlinearity artifacts in atomic force microscope measurements**

Chi-Fu Yen, and Sanjeevi Sivasankar

Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena **35**, 053201 (2017); <https://doi.org/10.1116/1.4994315>

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