

LETTERS

Degassing a vacuum system with *in-situ* UV radiation

Sean R. Koebley, Ronald A. Outlaw and Randy R. Dellwo

J. Vac. Sci. Technol. A **30**, 060601 (2012); <http://dx.doi.org/10.1116/1.4754292>

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REVIEW ARTICLE

Nanoscale photon management in silicon solar cells

Sangmoo Jeong, Shuang Wang and Yi Cui

J. Vac. Sci. Technol. A **30**, 060801 (2012); <http://dx.doi.org/10.1116/1.4759260>

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PLASMA SCIENCE AND TECHNOLOGY

Frequency and electrode shape effects on etch rate uniformity in a dual-frequency capacitive reactor

Dougyong Sung, Vladimir Volynets, Wonsub Hwang, Yumi Sung, Seokhwan

Lee, Myungsun Choi and Gon-Ho Kim

J. Vac. Sci. Technol. A **30**, 061301 (2012); <http://dx.doi.org/10.1116/1.4754695>

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Reaction mechanisms of oxygen plasma interaction with organosilicate low- k materials containing organic crosslinking groups

Mrunalkumar Chaudhari and Jincheng Du

J. Vac. Sci. Technol. A **30**, 061302 (2012); <http://dx.doi.org/10.1116/1.4755898>

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Comparison endpoint study of process plasma and secondary electron beam exciter optical emission spectroscopy

P. L. Stephan Thamban, Stuart Yun, Gabriel Padron-Wells, Jimmy W. Hosch and Matthew J. Goeckner

J. Vac. Sci. Technol. A **30**, 061303 (2012); <http://dx.doi.org/10.1116/1.4756694>

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Study on breathing mode oscillation suppression of self-excited Hall thrusters

Wei Liqiu, Han Ke, Wang Chunsheng, Li Hong, Zhang ChaoHai and Yu Daren

J. Vac. Sci. Technol. A **30**, 061304 (2012); <http://dx.doi.org/10.1116/1.4758788>

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Study on the oxidation and reduction of tungsten surface for sub-50 nm patterning process

Jong Kyu Kim, Seok Woo Nam, Sung Il Cho, Myung S. Jhon, Kyung Suk Min, Chan Kyu

Kim, Ho Bum Jung and Geun Young Yeom

J. Vac. Sci. Technol. A **30**, 061305 (2012); <http://dx.doi.org/10.1116/1.4758790>

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Negative oxygen ion formation in reactive magnetron sputtering processes for transparent conductive oxides

Thomas Welzel and Klaus Ellmer

J. Vac. Sci. Technol. A **30**, 061306 (2012); <http://dx.doi.org/10.1116/1.4762815>

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SURFACES

New method of calculating adsorption and scattering for Xe-Pt(111) using Direct Simulation Monte Carlo techniques

Brook I. Bentley and Robert B. Greendyke

J. Vac. Sci. Technol. A **30**, 061401 (2012); <http://dx.doi.org/10.1116/1.4748801>

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Friction and counterface wear influenced by surface profiles of plasma electrolytic oxidation coatings on an aluminum A356 alloy

Jun Feng Su, Xueyuan Nie, Henry Hu and Jimi Tjong

J. Vac. Sci. Technol. A **30**, 061402 (2012); <http://dx.doi.org/10.1116/1.4750474>

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Symmetric-asymmetric transformation of an image on GaAs(001)-c(4 × 4) α surface using scanning tunneling microscopy

Kazuma Yagyu, Shigeru Kaku and Junji Yoshino

J. Vac. Sci. Technol. A **30**, 061403 (2012); <http://dx.doi.org/10.1116/1.4754804>

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Dielectric function of LaAlO₃ from 0.8 to 6 eV between 77 and 700 K

Cayla Marie Nelson, Maria Spies, Lina S. Abdallah, Stefan Zollner, Yun Xu and Hongmei Luo

J. Vac. Sci. Technol. A **30**, 061404 (2012); <http://dx.doi.org/10.1116/1.4754811>

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Reflection high-energy electron diffraction evaluation of thermal deoxidation of chemically cleaned Si, SiGe, and Ge layers for solid-source molecular beam epitaxy

Dyan Ali and Christopher J. K. Richardson

J. Vac. Sci. Technol. A **30**, 061405 (2012); <http://dx.doi.org/10.1116/1.4757594>

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Direct observation of hopping and merging of single Au adatoms to form dimers on Si(111)-(7 × 7)

Lei Zhang, Yujin Jeon, Hyungjoon Shim and Geunseop Lee

J. Vac. Sci. Technol. A **30**, 061406 (2012); <http://dx.doi.org/10.1116/1.4758134>

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Study of surface cleaning methods and pyrolysis temperatures on nanostructured carbon films using x-ray photoelectron spectroscopy

Pranita Kerber, Lisa M. Porter, Lynne A. McCullough, Tomasz Kowalewski, Mark Engelhard and Donald Baer

J. Vac. Sci. Technol. A **30**, 061407 (2012); <http://dx.doi.org/10.1116/1.4759238>

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THIN FILMS

Oxidation behavior of arc evaporated Al-Cr-Si-N thin films

Christian Trittemmel, Rostislav Daniel, Christian Mitterer, Paul H. Mayrhofer, Markus Lechthaler and Peter Polcik

J. Vac. Sci. Technol. A **30**, 061501 (2012); <http://dx.doi.org/10.1116/1.4748802>

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Mechanically robust silica-like coatings deposited by microwave plasmas for barrier applications

Anna Maria Coclite, François De Luca and Karen K. Gleason

J. Vac. Sci. Technol. A **30**, 061502 (2012); <http://dx.doi.org/10.1116/1.4748804>

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New oxygen radical source using selective sputtering of oxygen atoms for high rate deposition of TiO₂ films

Yoji Yasuda, Hao Lei and Yoichi Hoshi

J. Vac. Sci. Technol. A **30**, 061503 (2012); <http://dx.doi.org/10.1116/1.4748803>

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Metal versus rare-gas ion irradiation during Ti_{1-x}Al_xN film growth by hybrid high power pulsed magnetron/dc magnetron co-sputtering using synchronized pulsed substrate bias

Grzegorz Greczynski, Jun Lu, Jens Jensen, Ivan Petrov, Joseph E. Greene, Stephan Bolz, Werner Kölker, Christoph Schifflers, Oliver Lemmer and Lars Hultman

J. Vac. Sci. Technol. A **30**, 061504 (2012); <http://dx.doi.org/10.1116/1.4750485>

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Microstructure and electrical properties of LaNiO₃ thin films by RF sputtering for the growth of (Pb,La)(Zr,Ti)O₃ films on silicon and nickel substrates

Shanshan Liu, Beihai Ma, Manoj Narayanan, Sheng Tong, Rachel Koritala and Uthamalingam Balachandran

J. Vac. Sci. Technol. A **30**, 061505 (2012); <http://dx.doi.org/10.1116/1.4752084>

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THIN FILMS

Decomposition and phase transformation in TiCrAlN thin coatings

Rikard Forsén, Mats Johansson, Magnus Odén and Naureen Ghafoor

J. Vac. Sci. Technol. A **30**, 061506 (2012); <http://dx.doi.org/10.1116/1.4757953>

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Effect of MoO₃ doping power on the electrical, optical, and structural properties of

MoO₃-doped In₂O₃ anodes for organic solar cells

Yong-Hee Shin, Han-Ki Kim and Seok-In Na

J. Vac. Sci. Technol. A **30**, 061507 (2012); <http://dx.doi.org/10.1116/1.4758789>

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Transparent conductive indium zinc oxide films prepared by pulsed plasma deposition

Runlai Wan, Ming Yang, Qianfei Zhou and Qun Zhang

J. Vac. Sci. Technol. A **30**, 061508 (2012); <http://dx.doi.org/10.1116/1.4762800>

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Characterization of epitaxially grown indium islands on Si(111)

Chad Lunceford and Jeff Drucker

J. Vac. Sci. Technol. A **30**, 061509 (2012); <http://dx.doi.org/10.1116/1.4764049>

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MnP nanoclusters embedded in GaP epitaxial films grown by organometallic vapor-phase epitaxy: A reciprocal space mapping and transmission electron microscopy study

Samuel Lambert-Milot, Simon Gaudet, Christian Lacroix, David Ménard, Remo A. Masut, Christian Lavoie and Patrick Desjardins

J. Vac. Sci. Technol. A **30**, 061510 (2012); <http://dx.doi.org/10.1116/1.4758132>

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Apparatus for deposition of composition spread alloy films: The rotatable shadow mask

Benoit Fleutot, James B. Miller and Andrew J. Gellman

J. Vac. Sci. Technol. A **30**, 061511 (2012); <http://dx.doi.org/10.1116/1.4766194>

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Ion-induced effects on grain boundaries and a-Si:H tissue quality in microcrystalline silicon films

A. C. Bronneberg, N. Cankoy, M. C. M. van de Sanden and M. Creatore

J. Vac. Sci. Technol. A **30**, 061512 (2012); <http://dx.doi.org/10.1116/1.4766193>

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VACUUM SCIENCE AND TECHNOLOGY

Long-term stability of metal-envelope enclosed Bayard-Alpert ionization gauges

James A. Fedchak and Dana R. Defibaugh

J. Vac. Sci. Technol. A **30**, 061601 (2012); <http://dx.doi.org/10.1116/1.4750482>[+ VIEW DESCRIPTION](#)**Characterization of alkali metal dispensers and non-evaporable getter pumps in ultrahigh vacuum systems for cold atomic sensors**

David R. Scherer, David B. Fenner and Joel M. Hensley

J. Vac. Sci. Technol. A **30**, 061602 (2012); <http://dx.doi.org/10.1116/1.4757950>[+ VIEW DESCRIPTION](#)**Comparison of beryllium oxide and pyrolytic graphite crucibles for boron doped silicon epitaxy**

Dyan Ali and Christopher J. K. Richardson

J. Vac. Sci. Technol. A **30**, 061603 (2012); <http://dx.doi.org/10.1116/1.4764509>[+ VIEW DESCRIPTION](#)**Growth of Fe cubical particles on substrates during gas flow sputtering**

Hiroshi Sakuma, Shinichi Sakamoto, Akimasa Naoi, Yusuke Saito and Kiyoshi Ishii

J. Vac. Sci. Technol. A **30**, 061604 (2012); <http://dx.doi.org/10.1116/1.4764933>[+ VIEW DESCRIPTION](#)**SHOP NOTES****Design of an effective vibration isolation system for measurements sensitive to low-frequency vibrations**

Katsuya Iwaya, Ryota Shimizu, Akira Teramura, Seiji Sasaki, Toru Itagaki and Taro Hitosugi

J. Vac. Sci. Technol. A **30**, 063201 (2012); <http://dx.doi.org/10.1116/1.4754700>[+ VIEW DESCRIPTION](#)