LETTERS

Very fast-opening UHV gate valve
Kurt Sonderegger, Michael Dür, Joachim Buthig, Sarantis Pantazis and Karl Jousten
J. Vac. Sci. Technol. A **31**, 060601 (2013); http://dx.doi.org/10.1116/1.4813836

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Investigation of arsenic and antimony capping layers, and half cycle reactions during atomic layer deposition of Al_2O_3 on GaSb(100)
Dmitry M. Zhernokletov, Hong Dong, Barry Brennan, Jiyoung Kim, Robert M. Wallace,Michael Yakimov, Vadim Tokranov and Serge Oktyabrsky
J. Vac. Sci. Technol. A **31**, 060602 (2013); http://dx.doi.org/10.1116/1.4817496

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Growth of one-dimensional vertically aligned carbon nanostructures on SiC—Catalyst effect
Göknur (Cambaz) Büke
J. Vac. Sci. Technol. A **31**, 060603 (2013); http://dx.doi.org/10.1116/1.4819375

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Modified high power impulse magnetron sputtering process for increased deposition rate of titanium
Paul Michael Barker, Erik Lewin and Jörg Patscheider
J. Vac. Sci. Technol. A **31**, 060604 (2013); http://dx.doi.org/10.1116/1.4819296

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INTERFACES

Probing ultrathin film continuity and interface abruptness with x-ray photoelectron spectroscopy and low-energy ion scattering
Wenyu Zhang, Rambert K. Nahm, Paul F. Ma and James R. Engstrom
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Band offsets for mismatched interfaces: The special case of ZnO on CdTe (001)
John E. Jaffe, Tiffany C. Kaspar, Timothy C. Droubay and Tamas Varga
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PHOTOVOLTAICS AND ENERGY

Modeling of the effects of charge transport on voltage-dependent photocurrent in ultrathin CdTe solar cells
Salman M. Arnab and M. Z. Kabir

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PLASMA SCIENCE AND TECHNOLOGY

Novel ArF photoresist polymer to suppress the formation of roughness in plasma etching processes

Takuji Uesugi, Takeru Okada, Akira Wada, Keisuke Kato, Atsushi Yasuda, Shinichi Maeda and Seiji Samukawa

J. Vac. Sci. Technol. A **31**, 061301 (2013); http://dx.doi.org/10.1116/1.4815829

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Atomic layer etching removal of damaged layers in a contact hole for low sheet resistance

Jong Kyu Kim, Sung Il Cho, Sung Ho Lee, Chan Kyu Kim, Kyung Suk Min and Geun Young Yeom

J. Vac. Sci. Technol. A **31**, 061302 (2013); http://dx.doi.org/10.1116/1.4816321

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Electron depletion via cathode spot dispersion of dielectric powder into an overhead plasma

Eric D. Gillman and John E. Foster

J. Vac. Sci. Technol. A **31**, 061303 (2013); http://dx.doi.org/10.1116/1.4817753

+ VIEW DESCRIPTION

Effect of open area ratio and pattern structure on fluctuations in critical dimension and Si recess[a)]

Nobuyuki Kuboi, Tetsuya Tatsumi, Masanaga Fukasawa, Takashi Kinoshita, Jun Komachi,Hisahiro Ansai and Hiroyuki Miwa

J. Vac. Sci. Technol. A **31**, 061304 (2013); http://dx.doi.org/10.1116/1.4817811

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Inductively coupled plasma–reactive ion etching of *c*- and *a*-plane AlGaN over the entire Al composition range: Effect of BCl_3 pretreatment in Cl_2/Ar plasma chemistry

Amit P. Shah, Masihhur R. Laskar, A. Azizur Rahman, Maheshwar R. Gokhale and Arnab Bhattacharya

J. Vac. Sci. Technol. A **31**, 061305 (2013); http://dx.doi.org/10.1116/1.4818871

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Measurements of sputtered neutrals and ions and investigation of their roles on the plasma properties during rf magnetron sputtering of Zn and ZnO targets

L. Maaloul and L. Stafford

J. Vac. Sci. Technol. A **31**, 061306 (2013); http://dx.doi.org/10.1116/1.4821186

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Effect of process parameters on properties of argon–nitrogen plasma for titanium nitride film deposition
Partha Saikia and Bharat Kakati
J. Vac. Sci. Technol. A **31**, 061307 (2013); http://dx.doi.org/10.1116/1.4821540

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Experimental and numerical investigations of electron density in low-pressure dual-frequency capacitively coupled oxygen discharges
Jia Liu, De-Qi Wen, Yong-Xin Liu, Fei Gao, Wen-Qi Lu and You-Nian Wang
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Ion optical effects in a low pressure rf plasma
Hans Oechsner and Hubert Paulus
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Damaged silicon contact layer removal using atomic layer etching for deep-nanoscale semiconductor devices
Jong Kyu Kim, Sung Il Cho, Sung Ho Lee, Chan Kyu Kim, Kyung Suk Min, Seung Hyun Kang and Geun Young Yeom
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Space and phase resolved ion energy and angular distributions in single- and dual-frequency capacitively coupled plasmas
Yiting Zhang, Mark J. Kushner, Nathaniel Moore, Patrick Pribyl and Walter Gekelman
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Spray deposition of nanostructured metal films using hydrodynamically stabilized, high pressure microplasmas
Travis L. Koh and Michael J. Gordon
J. Vac. Sci. Technol. A **31**, 061312 (2013); http://dx.doi.org/10.1116/1.4825129

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Effect of titanium contamination on oxygen atom recombination probability on plasma conditioned surfaces
Ashutosh K. Srivastava, Rohit Khare and Vincent M. Donnelly
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Microstructure and mechanical properties of Ti–B–C–N–Si nanocomposite films deposited by unbalanced magnetron sputtering
Jaeho Jang, Eunsol An, In-Wook Park, Dae-Geun Nam, Ilguk Jo, Jianliang Lin, John J. Moore, Kwang Ho Kim and Ikmin Park
J. Vac. Sci. Technol. A **31**, 061401 (2013); http://dx.doi.org/10.1116/1.4815952

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Phase transition of In/Si(111)-4×1 surface studied with low-energy electron diffraction
Jonghoon Yeo, Hyungjoon Shim and Geunseop Lee
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Mechanisms for hyperthermal polyatomic hydrocarbon modification of PMMA surfaces from molecular dynamics simulations
Kamal Choudhary, Leah B. Hill, Travis W. Kemper and Susan B. Sinnott
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Role of gold nanoclusters supported on TiO_2(110) model catalyst in CO oxidation reaction
Anton Visikovskiy, Kei Mitsuhara and Yoshiaki Kido
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Dissociation of trimethylgallium on the ZrB_2(0001) surface
Kedar Manandhar, Michael Trenary, Shigeki Otani and Peter Zapol
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Roughness evolution during the atomic layer deposition of metal oxides
Peter Antony Premkumar, Annelies Delabie, Leonard N. J. Rodriguez, Alain Moussa andChristoph Adelmann
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Fabrication of superconducting tantalum nitride thin films using infrared pulsed laser deposition
Saumyadip Chaudhuri, Ilari J. Maasilta, Lucie Chandernagor, Marion Ging and Manu Lahtinen
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Tin oxide atomic layer deposition from tetrakis(dimethylamino)tin and water
Marja N. Mullings, Carl Hägglund and Stacey F. Bent
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On the environmental stability of ZnO thin films by spatial atomic layer deposition
Andrea Illiberi, Robert Scherpenborg, Mirjam Theelen, Paul Poodt and Fred Roozeboom
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Evolution of sputtered tungsten coatings at high temperature
Veronika Stelmakh, Veronika Rinnerbauer, John D. Joannopoulos, Marin Soljačić, Ivan Celanovic, Jay J. Senkevich, Charles Tucker, Thomas Ives and Ronney Shrader
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Large effect of titanium precursor on surface reactivity and mechanical strength of electrospun nanofibers coated with TiO_2 by atomic layer deposition
Christina D. McClure, Christopher J. Oldham, Howard J. Walls and Gregory N. Parsons
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Effect of early stage growth on moisture permeation of thin-film Al_2O_3 grown by atomic layer deposition on polymers
Peter F. Carcia, Robert Scott McLean, Dennis J. Walls, Michael H. Reilly and John P. Wyre
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Abrasion resistance of silica-based coatings prepared by atmospheric pressure plasma chemical vapor deposition for protection of polymeric surfaces
Mayui Noborisaka, Takanori Mori, Ryohei Horikoshi, Akira Shirakura, Ayako Hashimoto andTetsuya Suzuki
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Thermal barrier coating deposition by rarefied gas jet assisted processes: Simulations of deposition on a stationary airfoil
Theron M. Rodgers, Hengbei Zhao and Haydn N. G. Wadley
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Deuterium ion beam irradiation onto the pulsed laser deposited tungsten thin films
A. T. T. Mostako, Alika Khare, C. V. S. Rao, Sudhirsinh Vala, R. J. Makwana and T. K. Basu
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Antimony-assisted carbonization of Si(111) with solid source molecular beam epitaxy
Justin Hackley, Wendy L. Sarney and Christopher J. K. Richardson
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Characterization and photoluminescence of Co-doped SiC films
Xianke Sun, Xin Jin, Shiqi Wang, Huarui Liu, Peng Sun, Yukai An, Ruisong Guo and Jiwen Liu
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Characteristics of Al-doped ZnO thin films prepared in Ar + H_2 atmosphere and their vacuum annealing behavior
Bailin Zhu, Kun Lü, Jun Wang, Taotao Li, Jun Wu, Dawen Zeng and Changsheng Xie
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SiO_2/TiO_2 distributed Bragg reflector near 1.5 μm fabricated by e-beam evaporation
I-Wen Feng, Sixuan Jin, Jing Li, Jingyu Lin and Hongxing Jiang
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Effect of Mn doping on the structural, optical, and magnetic properties of In_2O_3 films
Shiqi Wang, Yukai An, Lingshen Duan, Huarui Liu, Jiwen Liu and Zhonghua Wu
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THIN FILMS

Physical properties of epitaxial ZrN/MgO(001) layers grown by reactive magnetron sputtering
A. B. Mei, B. M. Howe, C. Zhang, M. Sardela, J. N. Eckstein, L. Hultman, A. Rockett, I. Petrov and J. E. Greene
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Dry etching techniques for active devices based on hexagonal boron nitride epilayers
Samuel Grenadier, Jing Li, Jingyu Lin and Hongxing Jiang
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Ag as a surfactant for Co/MgO(111)-($\sqrt{3} \times \sqrt{3}$)*R* 30°
H. Trevor Johnson-Steigelman, Somendra S. Parihar, Seth T. King and Paul F. Lyman
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VACUUM SCIENCE AND TECHNOLOGY

Improved design of 5 nm class electron optical microcolumn for manufacturing convenience and its characteristics
Tae-Sik Oh, Dae-Wook Kim, Seungjoon Ahn and Ho Seob Kim
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Evaporation and thermal cracking of dimeric parylenes
Gerhard Franz and Florian Schamberger
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Simulation of the transient heat transfer between two coaxial cylinders
Irina Graur, Minh Tuan Ho and Martin Wuest
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Optimized MEMS Pirani sensor with increased pressure measurement sensitivity in the fine and high vacuum regime
Friedemann Völklein, Mario Grau, Andreas Meier, Grit Hemer, Lars Breuer and Peter Woias
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Measurement of the tangential momentum accommodation coefficient of H_2 on stainless steel, extreme ultraviolet-resist, and polyimide
Johannes F. M. Velthuis and Laurens van Bokhoven
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Effect of trimethylsilane pressure on hot-wire chemical vapor deposition chemistry using vacuum ultraviolet laser ionization mass spectrometry
Rim Toukabri and Yujun Shi
J. Vac. Sci. Technol. A **31**, 061606 (2013); http://dx.doi.org/10.1116/1.4825105

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Nucleation and growth of MgO atomic layer deposition: A real-time spectroscopic ellipsometry study
Han Wang and Kan Fu
J. Vac. Sci. Technol. A **31**, 06F101 (2013); http://dx.doi.org/10.1116/1.4816776

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Nanoscale compositional analysis of NiTi shape memory alloy films deposited by DC magnetron sputtering
S. K. Sharma, S. Mohan, S. Bysakh, A. Kumar and S. V. Kamat
J. Vac. Sci. Technol. A **31**, 06F102 (2013); http://dx.doi.org/10.1116/1.4816841

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Surface initiated atom transfer radical polymerization grafting of sodium styrene sulfonate from titanium and silicon substrates
Rami N. Foster, Andrew J. Keefe, Shaoyi Jiang and David G. Castner
J. Vac. Sci. Technol. A **31**, 06F103 (2013); http://dx.doi.org/10.1116/1.4819833

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Reduction of angular dip width of surface plasmon resonance sensor by coupling surface plasma waves on sensing surface and inside metal–dielectric–metal structure
Bohr-Ran Huang, Chung-Chi Liao, Chun-Yi Lu, Wen-Cheng Ke, Yi-Lun Huang and Nai-Chuan Chen
J. Vac. Sci. Technol. A **31**, 06F104 (2013); http://dx.doi.org/10.1116/1.4821505

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***In-situ* plasma cleaning of samples to remove hydrocarbon and/or polydimethylsiloxane prior to ToF-SIMS analysis**
Vincent S. Smentkowski and C. A. Moore
J. Vac. Sci. Technol. A **31**, 06F105 (2013); http://dx.doi.org/10.1116/1.4822516

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Radiofrequency pulsed glow discharge-ToFMS depth profiling of a CdTe solar cell: A comparative study versus time of flight secondary ion mass spectrometry

Cristina Gonzalez-Gago, Jorge Pisonero, Nerea Bordel, Alfredo Sanz-Medel, Nicole J. Tibbetts and Vincent S. Smentkowski

J. Vac. Sci. Technol. A **31**, 06F106 (2013); http://dx.doi.org/10.1116/1.4824164

+ VIEW DESCRIPTION

X-ray photoelectron spectroscopy study of para-substituted benzoic acids chemisorbed to aluminum oxide thin films

Justin Kreil, Edward Ellingsworth and Greg Szulczewski

J. Vac. Sci. Technol. A **31**, 06F107 (2013); http://dx.doi.org/10.1116/1.4824166

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TOF SIMS analyses of stray Ga during FIB milling

Christopher Santeufemio, Brian P. Gorman, Chuanzhen Zhou, Lucille A. Giannuzzi andFred A. Stevie

J. Vac. Sci. Technol. A **31**, 06F108 (2013); http://dx.doi.org/10.1116/1.4825403

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Pseudomorphic growth of InAs on misoriented GaAs for extending quantum cascade laser wavelength

Charles Meyer, Emily Cheng, Justin Grayer, David Mueller, Gregory Triplett, Denzil Roberts and Samuel Graham

J. Vac. Sci. Technol. A **31**, 06F109 (2013); http://dx.doi.org/10.1116/1.4828357

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Soft x-ray appearance potential spectroscopy study of MgO (100) and α-Al_2O_3 (100) single crystals

Yasuo Fukuda, Noriaki Sanada, Sachie Mochizuki and Ikuko Yatsuzuka

J. Vac. Sci. Technol. A **31**, 06F110 (2013); http://dx.doi.org/10.1116/1.4828785

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