

LETTERS

S **Structural, mechanical, and magnetic properties of GaFe₃N thin films**

Muhammad Junaid, Denis Music, Marcus Hans, Jochen M. Schneider, Tanja Scholz, Richard Dronskowski and Daniel Primetzhofer
J. Vac. Sci. Technol. A **34**, 040601 (2016);
<http://dx.doi.org/10.1116/1.4949262>

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S **Formation of a SiOF reaction intermixing layer on SiO₂ etching using C₄F₆/O₂/Ar plasmas**

Yoshinobu Ohya, Maju Tomura, Kenji Ishikawa, Makoto Sekine and Masaru Hori
J. Vac. Sci. Technol. A **34**, 040602 (2016);
<http://dx.doi.org/10.1116/1.4949570>

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S **Effect of the chamber wall on fluorocarbon-assisted atomic layer etching of SiO₂ using cyclic Ar/C₄F₈ plasma**

Masatoshi Kawakami, Dominik Metzler, Chen Li and Gottlieb S. Oehrlein
J. Vac. Sci. Technol. A **34**, 040603 (2016);
<http://dx.doi.org/10.1116/1.4949260>

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PLASMA SCIENCE AND TECHNOLOGY

S **Silicon nitride and silicon etching by CH₃F/O₂ and CH₃F/CO₂ plasma beams**

Sanbir S. Kaler, Qiaowei Lou, Vincent M. Donnelly and Demetre J. Economou
J. Vac. Sci. Technol. A **34**, 041301 (2016);
<http://dx.doi.org/10.1116/1.4949261>

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S

Near-edge x-ray absorption fine structure spectroscopy at atmospheric pressure with a table-top laser-induced soft x-ray source

Frank-Christian Kühn, Matthias Müller, Meike Schellhorn, Klaus Mann, Stefan Wieneke and Karin Eusterhues

J. Vac. Sci. Technol. A **34**, 041302 (2016);

<http://dx.doi.org/10.1116/1.4950599>

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Gas discharge plasma treatment of poly(ethylene glycol-co-1,3/1,4 cyclohexanedimethanol terephthalate) for enhanced paint adhesion

Hernando S. Salapare III, Hannah Shamina O. Cosiñero, Beverly Anne T. Suarez, Miguel Y. Bacaoco, Julius Andrew P. Nuñez, Frédéric Guittard and Henry J. Ramos

J. Vac. Sci. Technol. A **34**, 041303 (2016);

<http://dx.doi.org/10.1116/1.4949867>

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Defect formation during chlorine-based dry etching and their effects on the electronic and structural properties of InP/InAsP quantum wells

Jean-Pierre Landesman, Juan Jiménez, Christophe Levallois, Frédéric Pommereau, Cesare Frigeri, Alfredo Torres, Yoan Léger, Alexandre Beck and Ahmed Rhallabi

J. Vac. Sci. Technol. A **34**, 041304 (2016);

<http://dx.doi.org/10.1116/1.4950445>

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Time-resolved ion flux and impedance measurements for process characterization in reactive high-power impulse magnetron sputtering

Daniel Lundin, Martin Čada and Zdeněk Hubička

J. Vac. Sci. Technol. A **34**, 041305 (2016);

<http://dx.doi.org/10.1116/1.4953033>

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S **Roughness generation during Si etching in Cl₂ pulsed plasma**

Odile Mourey, Camille Petit-Etienne, Gilles Cunge, Maxime Darnon, Emilie Despiau-Pujo, Paulin Brichon, Eddy Lattu-Romain, Michel Pons and Olivier Joubert

J. Vac. Sci. Technol. A **34**, 041306 (2016);

<http://dx.doi.org/10.1116/1.4951694>

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S **Fluorocarbon based atomic layer etching of Si₃N₄ and etching selectivity of SiO₂ over Si₃N₄**

Chen Li, Dominik Metzler, Chiukin Steven Lai, Eric A. Hudson and Gottlieb S. Oehrlein

J. Vac. Sci. Technol. A **34**, 041307 (2016);

<http://dx.doi.org/10.1116/1.4954961>

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SURFACES

S **Fast and low-cost method to fabricate large-area superhydrophobic surface on steel substrate with anticorrosion and anti-icing properties**

Wei Yan, Hongtao Liu, Tianchi Chen, Qinghe Sun and Wei Zhu

J. Vac. Sci. Technol. A **34**, 041401 (2016);

<http://dx.doi.org/10.1116/1.4953031>

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S **Application of nitrogen plasma immersion ion implantation to titanium nasal implants with nanonetwork surface structure**

Ying-Sui Sun, Lan Zhang, Hongqin Zhu, Wei-En Yang, Ming-Ying Lan, Sheng-Wei Lee and Her-Hsiung Huang

J. Vac. Sci. Technol. A **34**, 041402 (2016);

<http://dx.doi.org/10.1116/1.4953409>

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S **Solventless grafting of functional polymer coatings onto Parylene C**

Mark M. De Luna, Benny Chen, Laura C. Bradley, Ravi Bhandia and Malancho Gupta

J. Vac. Sci. Technol. A **34**, 041403 (2016);

<http://dx.doi.org/10.1116/1.4953876>

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S **Adsorption of *n*-butane on graphene/Ru(0001)—
A molecular beam scattering study**

Nilushni Sivapragasam, Mindika T. Nayakasinghe and Uwe Burghaus

J. Vac. Sci. Technol. A **34**, 041404 (2016);

<http://dx.doi.org/10.1116/1.4954811>

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S **Gas cluster ion beam for the characterization of organic materials in submarine basalts as Mars analogs**

Naoko Sano, Graham W. H. Purvis, Anders J. Barlow, Geoffrey D. Abbott, Neil N. D. Gray and Peter J. Cumpson

J. Vac. Sci. Technol. A **34**, 041405 (2016);

<http://dx.doi.org/10.1116/1.4954940>

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Fabrication of Nb/Pb structures through ultrashort pulsed laser deposition

Francisco Gontad, Antonella Lorusso, Argyro Klini, Esteban Broitman, Alessio Perrone and Costas Fotakis

J. Vac. Sci. Technol. A **34**, 041501 (2016);

<http://dx.doi.org/10.1116/1.4948529>

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Target poisoning during CrN deposition by mixed high power impulse magnetron sputtering and unbalanced magnetron sputtering technique

Yashodhan P. Purandare, Arutiun P. Ehasarian and Papken Eh Hovsepian

J. Vac. Sci. Technol. A **34**, 041502 (2016);

<http://dx.doi.org/10.1116/1.4950886>

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Use of aluminum oxide as a permeation barrier for producing thin films on aluminum substrates

James L. Provo

J. Vac. Sci. Technol. A **34**, 041503 (2016);

<http://dx.doi.org/10.1116/1.4950884>

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Atomic layer deposited nanocrystalline tungsten carbides thin films as a metal gate and diffusion barrier for Cu metallization

Jun Beom Kim, Soo-Hyun Kim, Won Seok Han and Do-Joong Lee

J. Vac. Sci. Technol. A **34**, 041504 (2016);

<http://dx.doi.org/10.1116/1.4951691>

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Impact of reduced graphene oxide on MoS₂ grown by sulfurization of sputtered MoO₃ and Mo precursor films

Shanee Pacley, Jianjun Hu, Michael Jespersen, Al Hilton, Adam Waite, Jacob Brausch, Emory Beck-Millerton and Andrey A. Voevodin
J. Vac. Sci. Technol. A **34**, 041505 (2016);
<http://dx.doi.org/10.1116/1.4952399>

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Structural and chemical analysis of annealed plasma-enhanced atomic layer deposition aluminum nitride films

Mikael Broas, Perttu Sippola, Timo Sajavaara, Vesa Vuorinen, Alexander Pyymaki Perros, Harri Lipsanen and Mervi Paulasto-Kröckel
J. Vac. Sci. Technol. A **34**, 041506 (2016);
<http://dx.doi.org/10.1116/1.4953029>

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Formation of homologous In₂O₃(ZnO)_m thin films and its thermoelectric properties

Junjun Jia, Cleva Ow-Yang, Güliz Inan Akmehmet, Shin-ichi Nakamura, Kunihiisa Kato and Yuzo Shigesato
J. Vac. Sci. Technol. A **34**, 041507 (2016);
<http://dx.doi.org/10.1116/1.4953032>

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Atomic layer deposition of (K,Na)(Nb,Ta)O₃ thin films

Henrik Hovde Sønsteby, Ola Nilsen and Helmer Fjellvåg
J. Vac. Sci. Technol. A **34**, 041508 (2016);
<http://dx.doi.org/10.1116/1.4953406>

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S **Large-scale molecular dynamics simulations of TiN/TiN(001) epitaxial film growth**

Daniel Edström, Davide G. Sangiovanni, Lars Hultman, Ivan Petrov, J. E. Greene and Valeriu Chirita
J. Vac. Sci. Technol. A **34**, 041509 (2016);
<http://dx.doi.org/10.1116/1.4953404>

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S **Analysis of compositional uniformity in $\text{Al}_x\text{Ga}_{1-x}\text{N}$ thin films using atom probe tomography and electron microscopy**

Fang Liu, Li Huang, Lisa M. Porter, Robert F. Davis and Daniel K. Schreiber
J. Vac. Sci. Technol. A **34**, 041510 (2016);
<http://dx.doi.org/10.1116/1.4953410>

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S **Substrate impact on the low-temperature growth of GaN thin films by plasma-assisted atomic layer deposition**

Seda Kizir, Ali Haider and Necmi Biyikli
J. Vac. Sci. Technol. A **34**, 041511 (2016);
<http://dx.doi.org/10.1116/1.4953463>

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S **Studies on cathodic arc PVD grown TiCrN based erosion resistant thin films**

Krishna Valleti, Puneet C, Rama Krishna L and Shrikant V. Joshi
J. Vac. Sci. Technol. A **34**, 041512 (2016);
<http://dx.doi.org/10.1116/1.4953466>

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S **Growth and structural evolution of Sn on Ag(001): Epitaxial monolayer to thick alloy film**

Suvankar Chakraborty and Krishnakumar S. R. Menon
J. Vac. Sci. Technol. A **34**, 041513 (2016);
<http://dx.doi.org/10.1116/1.4953543>

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S **Precursor dependent nucleation and growth of ruthenium films during chemical vapor deposition**

Wen Liao and John G. Ekerdt
J. Vac. Sci. Technol. A **34**, 041514 (2016);
<http://dx.doi.org/10.1116/1.4953882>

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S **XPS study of thermal and electron-induced decomposition of Ni and Co acetylacetonate thin films for metal deposition**

Theodor Weiss, Jonas Warneke, Volkmar Zielasek, Petra Swiderek and Marcus Bäumer
J. Vac. Sci. Technol. A **34**, 041515 (2016);
<http://dx.doi.org/10.1116/1.4953469>

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S **X-ray photoelectron spectroscopy for identification of morphological defects and disorders in graphene devices**

Pinar Aydogan, Emre O. Polat, Coskun Kocabas and Sefik Suzer
J. Vac. Sci. Technol. A **34**, 041516 (2016);
<http://dx.doi.org/10.1116/1.4954401>

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S **Effect of discharge power on target poisoning and coating properties in reactive magnetron sputter deposition of TiN**

Christian Saringer, Robert Franz, Katrin Zorn and Christian Mitterer
J. Vac. Sci. Technol. A **34**, 041517 (2016);
<http://dx.doi.org/10.1116/1.4954949>

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S **Effect of the addition of Si into Nb₂O₅ coatings on their structural, optical, and mechanical properties**

Roberto Mirabal-Rojas, Stephen Muhl, Sandra E. Rodil, Enrique Camps, Michael Lejeune and Andreas Zeinert

J. Vac. Sci. Technol. A **34**, 041518 (2016);

<http://dx.doi.org/10.1116/1.4954985>

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VACUUM SCIENCE AND TECHNOLOGY

S **Method for measuring thermal accommodation coefficients of gases on thin film surfaces using a MEMS sensor structure**

Mario Grau, Friedemann Völklein, Andreas Meier, Christina Kunz, Jonas Heidler and Peter Woias

J. Vac. Sci. Technol. A **34**, 041601 (2016);

<http://dx.doi.org/10.1116/1.4948527>

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S **Atomic bonding effects in annular dark field scanning transmission electron microscopy. I. Computational predictions**

Michael L. Odlyzko, Burak Himmetoglu, Matteo Cococcioni and K. Andre Mkhoyan

J. Vac. Sci. Technol. A **34**, 041602 (2016);

<http://dx.doi.org/10.1116/1.4954871>

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S **Atomic bonding effects in annular dark field scanning transmission electron microscopy. II. Experiments**

Michael L. Odlyzko, Jacob T. Held and K. Andre Mkhoyan

J. Vac. Sci. Technol. A **34**, 041603 (2016);

<http://dx.doi.org/10.1116/1.4954877>

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SHOP NOTES

OA **Planar regions of GaAs (001) prepared by Ga droplet motion**

Changxi Zheng, Wen-Xin Tang and David E. Jesson
J. Vac. Sci. Technol. A **34**, 043201 (2016);
<http://dx.doi.org/10.1116/1.4948530>

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S **High performance Schottky diodes based on indium-gallium-zinc-oxide**

Jiawei Zhang, Qian Xin and Aimin Song
J. Vac. Sci. Technol. A **34**, 04C101 (2016);
<http://dx.doi.org/10.1116/1.4945102>

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S **Antimicrobial activity of tantalum oxide coatings decorated with Ag nanoparticles**

Huiliang Cao, Fanhao Meng and Xuanyong Liu
J. Vac. Sci. Technol. A **34**, 04C102 (2016);
<http://dx.doi.org/10.1116/1.4947077>

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Surface passivation of Fe₃O₄ nanoparticles with Al₂O₃ via atomic layer deposition in a rotating fluidized bed reactor

Chen-Long Duan, Zhang Deng, Kun Cao, Hong-Feng Yin, Bin Shan and Rong Chen
J. Vac. Sci. Technol. A **34**, 04C103 (2016);
<http://dx.doi.org/10.1116/1.4952401>

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