

Letters

FullJuly 2018

Achieving ultrahigh etching selectivity of SiO₂ over Si₃N₄ and Si in atomic layer etching by exploiting chemistry of complex hydrofluorocarbon precursors

Kang-Yi Lin, Chen Li, Sebastian Engelmann, Robert L. Bruce more...

Journal of Vacuum Science & Technology A **36**, 040601 (2018); <https://doi.org/10.1116/1.5035291>

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Hard TiN₂ dinitride films prepared by magnetron sputtering

Jindřich Musil, Martin Jaroš, Šimon Kos, Radomír Čerstvý more...

Journal of Vacuum Science & Technology A **36**, 040602 (2018); <https://doi.org/10.1116/1.5038555>

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Review Articles

OpenJuly 2018

Review Article: Quantum-based vacuum metrology at the National Institute of Standards and Technology

Julia Scherschligt, James A. Fedchak, Zeeshan Ahmed, Daniel S. Barker more...

Journal of Vacuum Science & Technology A **36**, 040801 (2018); <https://doi.org/10.1116/1.5033568>

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Photovoltaics and Energy

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Efficient p-i-n inorganic CsPbI₃ perovskite solar cell deposited using layer-by-layer vacuum deposition

Ranjith Kottokkaran, Harshavardhan A. Gaonkar, Behrang Bagheri, and Vikram L. Dalal

Journal of Vacuum Science & Technology A **36**, 041201 (2018); <https://doi.org/10.1116/1.5029253>

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Plasma Science and Technology

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Helium plasma modification of Si and Si₃N₄ thin films for advanced etch processes

Vahagn Martirosyan, Emilie Despiau-Pujo, Jerome Dubois, Gilles Cunge more...

Journal of Vacuum Science & Technology A **36**, 041301 (2018); <https://doi.org/10.1116/1.5025152>

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Determination of rotational and vibrational temperatures of CH in CH₄ plasmas

Tara L. Van Surksum, Joshua M. Blechle, and Ellen R. Fisher

Journal of Vacuum Science & Technology A **36**, 041302 (2018); <https://doi.org/10.1116/1.5031889>

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Sputtering of Si by Ar: A binary collision approach based on quantum-mechanical cross sections

Alexander P. Palov, Gabriel G. Balint-Kurti, Ekaterina N. Voronina, and Tatyana V. Rakhimova

Journal of Vacuum Science & Technology A **36**, 041303 (2018); <https://doi.org/10.1116/1.5027387>

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Surfaces

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Homeotropic alignment behavior of liquid crystal molecules on self-assembled monolayers with fluorinated alkyl chain

Seok-Gon Hwang, Hong-Gyu Park, Mu-Hun Park, and Sang-Geon Park

Journal of Vacuum Science & Technology A **36**, 041401 (2018); <https://doi.org/10.1116/1.5028327>

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Multiple water layers on AnO_2 {111}, {110}, and {100} surfaces ($An = U, Pu$): A computational study

Bengt E. Tegner, and Nikolas Kaltsoyannis

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Preventing carbon contamination of Ge (001) during atomic layer deposition with a barium-based Zintl layer

Shen Hu, and John G. Ekerdt

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Comparison of ZnO surface modification with gas-phase propiolic acid at high and medium vacuum conditions

Mahsa Konh, Chuan He, Zhengxin Li, Shi Bai more...

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Thin Films

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Remote plasma-enhanced atomic layer deposition of metallic TiN films with low work function and high uniformity

Yafeng Zhu, Fangsen Li, Rong Huang, Tong Liu more...

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Impact of the sequence of precursor introduction on the growth and properties of atomic layer deposited Al-doped ZnO films

Harold Le Tulzo, Nathanaelle Schneider, Daniel Lincot, Gilles Patriarche more...

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Comparison of thermal and plasma-enhanced atomic layer deposition of niobium oxide thin films

Saravana Balaji Basuvalingam, Bart Macco, Harm C. M. Knoop, Jimmy Melskens more...

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Study on the mechanisms of formation of aluminized diffusion coatings on a Ni-base superalloy using different pack aluminization procedures

Ederson Pauletti, and Ana Sofia Clímaco Monteiro d'Oliveira

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Initial nucleation stage in photo-CVD of GeH₄ on SiO₂ substrate monitored by real-time spectroscopic ellipsometry and photo reflectance: Accurate determination of incubation time

Housei Akazawa

Journal of Vacuum Science & Technology A **36**, 041505 (2018); <https://doi.org/10.1116/1.5040380>

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Revisitation of the structure zone model based on the investigation of the structure and properties of Ti, Zr, and Hf thin films deposited at 70–600 °C using DC magnetron sputtering

Eiji Kusano

Journal of Vacuum Science & Technology A **36**, 041506 (2018); <https://doi.org/10.1116/1.5036555>

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Area selective CVD of metallic films from molybdenum, iron, and ruthenium carbonyl precursors: Use of ammonia to inhibit nucleation on oxide surfaces

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Vacuum Science and Technology

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Smallest microhouse in the world, assembled on the facet of an optical fiber by origami and welded in the μ Robotex nanofactory

Jean-Yves Rauch, Olivier Lehmann, Patrick Rougeot, Joel Abadie more...

Journal of Vacuum Science & Technology A **36**, 041601 (2018); <https://doi.org/10.1116/1.5020128>

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History of very thick film and bulk sample group IIIB, IVB, VB, and rare earth materials for various vacuum applications

James L. Provo

Journal of Vacuum Science & Technology A **36**, 041602 (2018); <https://doi.org/10.1116/1.5038880>

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New leak element based on graphene oxide membranes

Donghui Meng, Rongxin Yan, Guohua Ren, Lichen Sun more...

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Articles

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Andrea Illiberi, Ilias Katsouras, Sasa Gazibegovic, Brian Cobb more...

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Interferometry of plasma bursts in helium atmospheric-pressure plasma jets

Vladimir Samara, and Sylwia Ptasinska

Journal of Vacuum Science & Technology A **36**, 04F402 (2018); <https://doi.org/10.1116/1.5023113>

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Conversion of CO₂ in a packed-bed dielectric barrier discharge reactor

Atindra M. Banerjee, Joel Billinger, Karen J. Nordheden, and Floran J. J. Peeters

Journal of Vacuum Science & Technology A **36**, 04F403 (2018); <https://doi.org/10.1116/1.5024400>

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Atmospheric pressure plasma jet: A facile method to modify the intimal surface of polymeric tubular conduits

Bernabe S. Tucker, Paul A. Baker, Kunning G. Xu, Yogesh K. Vohra more...

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Maghemite thin films prepared using atmospheric-pressure plasma annealing

Hong-Ying Chen, and Shun-Hsiang Yang

Journal of Vacuum Science & Technology A **36**, 04F405 (2018); <https://doi.org/10.1116/1.5023144>

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Excitation mechanisms in a nonequilibrium helium plasma jet emerging in ambient air at 1 atm

Tam Nguyen, Eduardo Hernandez, Vincent M. Donnelly, and Demetre J. Economou

Journal of Vacuum Science & Technology A **36**, 04F406 (2018); <https://doi.org/10.1116/1.5023693>

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Estimating the number density and energy distribution of electrons in a cold atmospheric plasma using optical emission spectroscopy

Venu Anand, Aswathi Nair, Anbuselvan Karur Karunapathy Nagendirakumar, and Mohan Rao Gowravaram

Journal of Vacuum Science & Technology A **36**, 04F407 (2018); <https://doi.org/10.1116/1.5023107>

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