Riikka L Puurunen

List of Publications by Year
in descending order

84	6,695	147726	66879
papers	citations	31 h-index	78 g-index

100	100	100	6188
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Surface chemistry of atomic layer deposition: A case study for the trimethylaluminum/water process. Journal of Applied Physics, 2005, 97, 121301.	1.1	2,217
2	Crystallinity of inorganic films grown by atomic layer deposition: Overview and general trends. Journal of Applied Physics, 2013, 113, .	1.1	1,190
3	Conformality in atomic layer deposition: Current status overview of analysis and modelling. Applied Physics Reviews, 2019, 6, .	5.5	293
4	Island growth as a growth mode in atomic layer deposition: A phenomenological model. Journal of Applied Physics, 2004, 96, 7686-7695.	1.1	267
5	A Short History of Atomic Layer Deposition: Tuomo Suntola's Atomic Layer Epitaxy. Chemical Vapor Deposition, 2014, 20, 332-344.	1.4	166
6	Growth Per Cycle in Atomic Layer Deposition: A Theoretical Model. Chemical Vapor Deposition, 2003, 9, 249-257.	1.4	163
7	Aluminum oxide from trimethylaluminum and water by atomic layer deposition: The temperature dependence of residual stress, elastic modulus, hardness and adhesion. Thin Solid Films, 2014, 552, 124-135.	0.8	155
8	Spectroscopic Study on the Irreversible Deactivation of Chromia/Alumina Dehydrogenation Catalysts. Journal of Catalysis, 2002, 210, 418-430.	3.1	146
9	Island growth in the atomic layer deposition of zirconium oxide and aluminum oxide on hydrogen-terminated silicon: Growth mode modeling and transmission electron microscopy. Journal of Applied Physics, 2004, 96, 4878-4889.	1.1	132
10	Growth Per Cycle in Atomic Layer Deposition: Real Application Examplesof a Theoretical Model. Chemical Vapor Deposition, 2003, 9, 327-332.	1.4	95
11	Atomic layer deposition of hafnium oxide on germanium substrates. Journal of Applied Physics, 2005, 97, 064104.	1.1	95
12	Correlation between the growth-per-cycle and the surface hydroxyl group concentration in the atomic layer deposition of aluminum oxide from trimethylaluminum and water. Applied Surface Science, 2005, 245, 6-10.	3.1	90
13	Analysis of hydroxyl group controlled atomic layer deposition of hafnium dioxide from hafnium tetrachloride and water. Journal of Applied Physics, 2004, 95, 4777-4786.	1.1	85
14	Successive reactions of gaseous trimethylaluminium and ammonia on porous alumina. Physical Chemistry Chemical Physics, 2001, 3, 1093-1102.	1.3	84
15	IR and NMR Study of the Chemisorption of Ammonia on Trimethylaluminum-Modified Silica. Journal of Physical Chemistry B, 2000, 104, 6599-6609.	1.2	77
16	Formation of Metal Oxide Particles in Atomic Layer Deposition During the Chemisorption of Metal Chlorides: A Review. Chemical Vapor Deposition, 2005, 11, 79-90.	1.4	66
17	Implementing ALD Layers in MEMS Processing. ECS Transactions, 2007, 11, 3-14.	0.3	66
18	Thermal and plasma enhanced atomic layer deposition of SiO2 using commercial silicon precursors. Thin Solid Films, 2014, 558, 93-98.	0.8	66

#	Article	IF	Citations
19	Review Article: Recommended reading list of early publications on atomic layer depositionâ€"Outcome of the â€œVirtual Project on the History of ALDâ€. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2017, 35, .	0.9	65
20	Random Deposition as a Growth Mode in Atomic Layer Deposition. Chemical Vapor Deposition, 2004, 10, 159-170.	1.4	62
21	Monitoring Chromia/Alumina Catalysts in Situ during Propane Dehydrogenation by Optical Fiber UVâ€"Visible Diffuse Reflectance Spectroscopy. Journal of Catalysis, 2001, 204, 253-257.	3.1	52
22	Controlling the Crystallinity and Roughness of Atomic Layer Deposited Titanium Dioxide Films. Journal of Nanoscience and Nanotechnology, 2011, 11, 8101-8107.	0.9	51
23	Preparation of silica-supported cobalt catalysts through chemisorption of cobalt(ii) and cobalt(iii) acetylacetonate. Physical Chemistry Chemical Physics, 2002, 4, 2466-2472.	1.3	46
24	Modeling growth kinetics of thin films made by atomic layer deposition in lateral high-aspect-ratio structures. Journal of Applied Physics, 2018, 123, .	1.1	42
25	Inductively coupled plasma etching of amorphous Al[sub 2]O[sub 3] and TiO[sub 2] mask layers grown by atomic layer deposition. Journal of Vacuum Science & Technology B, 2006, 24, 2350.	1.3	41
26	Microscopic silicon-based lateral high-aspect-ratio structures for thin film conformality analysis. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2015, 33, .	0.9	40
27	Aluminum oxide/titanium dioxide nanolaminates grown by atomic layer deposition: Growth and mechanical properties. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2017, 35, .	0.9	38
28	Hafnium oxide films by atomic layer deposition for high-Îº gate dielectric applications: Analysis of the density of nanometer-thin films. Applied Physics Letters, 2005, 86, 073116.	1.5	37
29	Atomic layer deposition of iridium(III) acetylacetonate on alumina, silicaâ€"alumina, and silica supports. Applied Surface Science, 2007, 253, 4103-4111.	3.1	37
30	Growth of Aluminum Nitride on Porous Alumina and Silica through Separate Saturated Gasâ^'Solid Reactions of Trimethylaluminum and Ammonia. Chemistry of Materials, 2002, 14, 720-729.	3.2	34
31	Growth of aluminium nitride on porous silica by atomic layer chemical vapour deposition. Applied Surface Science, 2000, 165, 193-202.	3.1	33
32	Film Conformality and Extracted Recombination Probabilities of O Atoms during Plasma-Assisted Atomic Layer Deposition of SiO₂, TiO₂, Al₂O₃, and HfO₂. Journal of Physical Chemistry C, 2019, 123, 27030-27035.	1.5	33
33	Nucleation and Conformality of Iridium and Iridium Oxide Thin Films Grown by Atomic Layer Deposition. Langmuir, 2016, 32, 10559-10569.	1.6	31
34	Sticking probabilities of H2O and Al(CH3)3 during atomic layer deposition of Al2O3 extracted from their impact on film conformality. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2019, 37, .	0.9	30
35	X-ray reflectivity characterization of atomic layer deposition Al2O3/TiO2 nanolaminates with ultrathin bilayers. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2014, 32, .	0.9	28
36	Study of Ni, Pt, and Ru Catalysts on Woodâ€based Activated Carbon Supports and their Activity in Furfural Conversion to 2â€Methylfuran. ChemCatChem, 2018, 10, 3269-3283.	1.8	28

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37	Thermal conductivity of amorphous Al₂O₃/TiO₂nanolaminates deposited by atomic layer deposition. Nanotechnology, 2016, 27, 445704.	1.3	27
38	Chromium(III) supported on aluminum-nitride-surfaced alumina: characteristics and dehydrogenation activity. Journal of Catalysis, 2003, 213, 281-290.	3.1	25
39	Saturation profile based conformality analysis for atomic layer deposition: aluminum oxide in lateral high-aspect-ratio channels. Physical Chemistry Chemical Physics, 2020, 22, 23107-23120.	1.3	23
40	Microscratch testing method for systematic evaluation of the adhesion of atomic layer deposited thin films on silicon. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2016, 34, .	0.9	21
41	Title is missing!. Catalysis Letters, 2002, 83, 27-32.	1.4	19
42	Aqueous-phase reforming of Fischer-Tropsch alcohols over nickel-based catalysts to produce hydrogen: Product distribution and reaction pathways. Applied Catalysis A: General, 2018, 567, 112-121.	2.2	19
43	The future of high-K on pure germanium and its importance for Ge CMOS. Materials Science in Semiconductor Processing, 2005, 8, 203-207.	1.9	18
44	Grazing Incidence-X-ray Fluorescence Spectrometry for the Compositional Analysis of Nanometer-Thin High-.KAPPA. Dielectric HfO2 Layers. Analytical Sciences, 2005, 21, 845-850.	0.8	17
45	Fracture properties of atomic layer deposited aluminum oxide free-standing membranes. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2015, 33, .	0.9	17
46	Mechanical and optical properties of as-grown and thermally annealed titanium dioxide from titanium tetrachloride and water by atomic layer deposition. Thin Solid Films, 2021, 732, 138758.	0.8	17
47	ToF-SIMS 3D Analysis of Thin Films Deposited in High Aspect Ratio Structures via Atomic Layer Deposition and Chemical Vapor Deposition. Nanomaterials, 2019, 9, 1035.	1.9	16
48	Impact of Ions on Film Conformality and Crystallinity during Plasma-Assisted Atomic Layer Deposition of TiO₂. Chemistry of Materials, 2021, 33, 5002-5009.	3.2	16
49	Evidence for low-energy ions influencing plasma-assisted atomic layer deposition of SiO2: Impact on the growth per cycle and wet etch rate. Applied Physics Letters, 2020, 117, .	1.5	15
50	Depth profiling of Al2O3+TiO2 nanolaminates by means of a time-of-flight energy spectrometer. Nuclear Instruments & Methods in Physics Research B, 2011, 269, 3021-3024.	0.6	14
51	Reducing stiction in microelectromechanical systems by rough nanometer-scale films grown by atomic layer deposition. Sensors and Actuators A: Physical, 2012, 188, 240-245.	2.0	14
52	Conformality of atomic layer deposition in microchannels: impact of process parameters on the simulated thickness profile. Physical Chemistry Chemical Physics, 2022, 24, 8645-8660.	1.3	14
53	Nucleation of atomic-layer-deposited HfO2 films, and evolution of their microstructure, studied by grazing incidence small angle x-ray scattering using synchrotron radiation. Applied Physics Letters, 2006, 88, 032907.	1.5	13
54	Nanotribological, nanomechanical and interfacial characterization of atomic layer deposited TiO2 on a silicon substrate. Wear, 2015, 342-343, 270-278.	1.5	13

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55	Atomic Layer Deposition in MEMS Technology. , 2010, , 433-446.		12
56	Silicon full wafer bonding with atomic layer deposited titanium dioxide and aluminum oxide intermediate films. Sensors and Actuators A: Physical, 2012, 188, 268-276.	2.0	12
57	Kinetic Modelling of the Aqueous-Phase Reforming of Fischer-Tropsch Water over Ceria-Zirconia Supported Nickel-Copper Catalyst. Catalysts, 2019, 9, 936.	1.6	12
58	Hydrodeoxygenation of Levulinic Acid Dimers on a Zirconia-Supported Ruthenium Catalyst. Catalysts, 2020, 10, 200.	1.6	12
59	Conversion of furfural to 2-methylfuran over CuNi catalysts supported on biobased carbon foams. Catalysis Today, 2021, 367, 16-27.	2.2	12
60	Nickel Supported on Mesoporous Zirconium Oxide by Atomic Layer Deposition: Initial Fixed-Bed Reactor Study. Topics in Catalysis, 2019, 62, 611-620.	1.3	11
61	On the reliability of nanoindentation hardness of Al2O3films grown on Si-wafer by atomic layer deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2014, 32, 01A116.	0.9	10
62	Influence of ALD temperature on thin film conformality: Investigation with microscopic lateral high-aspect-ratio structures. , 2016, , .		10
63	Comparison of mechanical properties and composition of magnetron sputter and plasma enhanced atomic layer deposition aluminum nitride films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2018, 36, .	0.9	10
64	Structured microreactor with gold and palladium on titania: Active, regenerable and durable catalyst coatings for the gas-phase partial oxidation of 1-butanol. Applied Catalysis A: General, 2018, 562, 173-183.	2.2	10
65	Liquidâ€phase Hydrodeoxygenation of 4â€Propylphenol to Propylbenzene: Reducible Supports for Pt Catalysts. ChemCatChem, 2020, 12, 4090-4104.	1.8	9
66	Thin film absorbers for visible, near-infrared, and short-wavelength infrared spectra. Sensors and Actuators A: Physical, 2010, 162, 210-214.	2.0	8
67	Oxygen Recombination Probability Data for Plasma-Assisted Atomic Layer Deposition of SiO₂ and TiO₂. Journal of Physical Chemistry C, 2021, 125, 8244-8252.	1.5	8
68	Bonding of ALD Alumina for Advanced SOI Substrates. ECS Transactions, 2010, 33, 137-144.	0.3	7
69	Use of ALD thin film Bragg mirror stacks in tuneable visible light MEMS Fabry-Perot interferometers. Proceedings of SPIE, 2012, , .	0.8	7
70	Tribological properties of thin films made by atomic layer deposition sliding against silicon. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2018, 36, .	0.9	7
71	Solvent-free Hydrodeoxygenation of Î³-Nonalactone on Noble Metal Catalysts Supported on Zirconia. Topics in Catalysis, 2019, 62, 724-737.	1.3	7
72	Surface Preparation Techniques for High-k Deposition on Ge Substrates. Solid State Phenomena, 2005, 103-104, 31-36.	0.3	5

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73	Thin film absorbers for visible, near-infrared, and short-wavelength infrared spectra. Procedia Chemistry, 2009, 1, 393-396.	0.7	3
74	Vapor-phase self-assembled monolayers for improved MEMS reliability. , 2010, , .		3
75	Direct wafer bonding of atomic layer deposited TiO<inf>2</inf> and Al<inf>2</inf>O<inf>3</inf> thin films. , 2011, , .		3
76	Optical metrology of 3D thin film conformality by LHAR chip assisted method. , 2022, , .		3
77	Reply to â€œComment on â€˜Analysis of hydroxyl group controlled atomic layer deposition of hafnium oxide from hafnium tetrachloride and waterâ€â€‰â€™ [J. Appl. Phys. 95, 4777 (2004)]. Journal of Applied Physics, 2005, 98, 016102.	1.1	2
78	(Invited) Learnings from an Open Science Effort: Virtual Project on the History of ALD. ECS Transactions, 2018, 86, 3-17.	0.3	2
79	Hydrodeoxygenation Model Compounds Î³-Heptalactone and Î³-Nonalactone: Density from 293 to 473 K and H₂ Solubility from 479 to 582 K. Journal of Chemical & Engineering Data, 2020, 65, 2764-2773.	1.0	2
80	Low-Temperature Processes for MEMS Device Fabrication. NATO Science for Peace and Security Series B: Physics and Biophysics, 2010, , 167-178.	0.2	2
81	Saturation profile measurement of atomic layer deposited film by X-ray microanalysis on lateral high-aspect-ratio structure. Applied Surface Science Advances, 2021, 5, 100102.	2.9	1
82	Formation of Metal Oxide Particles in Atomic Layer Deposition During the Chemisorption of Metal Chlorides: A Review. ChemInform, 2005, 36, no.	0.1	0
83	Hydrodeoxygenation of Propylphenols on a Niobiaâ€Supported Platinum Catalyst: Ortho , Meta , Para Isomerism, Reaction Conditions, and Phase Equilibria. Advanced Sustainable Systems, 2020, 4, 1900140.	2.7	0
84	(Invited) Learnings from an Open Science Effort: Virtual Project on the History of ALD. ECS Meeting Abstracts, 2018, , .	0.0	0