Jaan Aarik

List of Publications by Year
in descending order

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98 papers	4,001 citations	101543 36 h-index	123424 61 g-index
100 all docs	100 docs citations	100 times ranked	3511 citing authors

#	Article	IF	Citations
1	Morphology and structure of TiO2 thin films grown by atomic layer deposition. Journal of Crystal Growth, 1995, 148, 268-275.	1.5	275
2	Effect of crystal structure on optical properties of TiO2 films grown by atomic layer deposition. Thin Solid Films, 1997, 305, 270-273.	1.8	254
3	Titanium isopropoxide as a precursor for atomic layer deposition: characterization of titanium dioxide growth process. Applied Surface Science, 2000, 161, 385-395.	6.1	187
4	Optical characterization of HfO2 thin films grown by atomic layer deposition. Thin Solid Films, 2004, 466, 41-47.	1.8	175
5	Texture development in nanocrystalline hafnium dioxide thin films grown by atomic layer deposition. Journal of Crystal Growth, 2000, 220, 105-113.	1.5	117
6	Thin films of HfO2 and ZrO2 as potential scintillators. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2005, 537, 251-255.	1.6	116
7	Anomalous effect of temperature on atomic layer deposition of titanium dioxide. Journal of Crystal Growth, 2000, 220, 531-537.	1.5	115
8	Properties of tantalum oxide thin films grown by atomic layer deposition. Thin Solid Films, 1995, 260, 135-142.	1.8	111
9	Influence of growth temperature on properties of zirconium dioxide films grown by atomic layer deposition. Journal of Applied Physics, 2002, 92, 1833-1840.	2.5	100
10	Growth kinetics and structure formation of ZrO2 thin films in chloride-based atomic layer deposition process. Thin Solid Films, 2002, 408, 97-103.	1.8	90
11	Atomic Layer Chemical Vapor Deposition of TiO[sub 2] Low Temperature Epitaxy of Rutile and Anatase. Journal of the Electrochemical Society, 2000, 147, 3319.	2.9	88
12	Atomic Layer Deposition of Iron Oxide Thin Films and Nanotubes using Ferrocene and Oxygen as Precursors. Chemical Vapor Deposition, 2008, 14, 67-70.	1.3	78
13	Atomic layer deposition of zirconium oxide from zirconium tetraiodide, water and hydrogen peroxide. Journal of Crystal Growth, 2001, 231, 262-272.	1.5	77
14	Atomic layer growth of epitaxial TiO2 thin films from TiCl4 and H2O on Î±-Al2O3 substrates. Journal of Crystal Growth, 2002, 242, 189-198.	1.5	77
15	Atomic layer deposition of TiO2 thin films from TiI4 and H2O. Applied Surface Science, 2002, 193, 277-286.	6.1	75
16	Phase transformations in hafnium dioxide thin films grown by atomic layer deposition at high temperatures. Applied Surface Science, 2001, 173, 15-21.	6.1	72
17	In situ study of atomic layer epitaxy growth of tantalum oxide thin films from Ta(OC2H5)5 and H2O. Applied Surface Science, 1997, 112, 236-242.	6.1	71
18	Characterization of titanium dioxide atomic layer growth from titanium ethoxide and water. Thin Solid Films, 2000, 370, 163-172.	1.8	71

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19	Control of thin film structure by reactant pressure in atomic layer deposition of TiO2. Journal of Crystal Growth, 1996, 169, 496-502.	1.5	68
20	Effect of selected atomic layer deposition parameters on the structure and dielectric properties of hafnium oxide films. Journal of Applied Physics, 2004, 96, 5298-5307.	2.5	64
21	Atomic layer deposition of TiO2 from TiCl4 and O3. Thin Solid Films, 2013, 542, 100-107.	1.8	64
22	Properties of hafnium oxide films grown by atomic layer deposition from hafnium tetraiodide and oxygen. Journal of Applied Physics, 2002, 92, 5698-5703.	2.5	63
23	Atomic Layer Deposition of Ruthenium Films from (Ethylcyclopentadienyl)(pyrrolyl)ruthenium and Oxygen. Journal of the Electrochemical Society, 2011, 158, D158.	2.9	52
24	Influence of phase composition on optical properties of TiO2: Dependence of refractive index and band gap on formation of TiO2-II phase in thin films. Optical Materials, 2019, 96, 109335.	3.6	52
25	Mechanisms of suboxide growth and etching in atomic layer deposition of tantalum oxide from TaCl5 and H2O. Applied Surface Science, 1996, 103, 331-341.	6.1	51
26	Effect of growth conditions on formation of TiO2-II thin films in atomic layer deposition process. Journal of Crystal Growth, 1997, 181, 259-264.	1.5	49
27	Dielectric Properties of Zirconium Oxide Grown by Atomic Layer Deposition from Iodide Precursor. Journal of the Electrochemical Society, 2001, 148, F227.	2.9	48
28	Conformity and structure of titanium oxide films grown by atomic layer deposition on silicon substrates. Thin Solid Films, 2008, 516, 4855-4862.	1.8	48
29	Raman characterization of stacking in multi-layer graphene grownÂonÂNi. Carbon, 2016, 98, 658-665.	10.3	47
30	Effect of substrate-enhanced and inhibited growth on atomic layer deposition and properties of aluminumâ€“titanium oxide films. Thin Solid Films, 2016, 600, 119-125.	1.8	44
31	Epitaxial growth of TiO2 films in a hydroxyl-free atomic layer deposition process. Journal of Crystal Growth, 2002, 235, 293-299.	1.5	43
32	In situ study of a strontium Î²-diketonate precursor for thin-film growth by atomic layer epitaxy. Journal of Materials Chemistry, 1994, 4, 1239-1244.	6.7	42
33	Deposition of HfO[sub 2] Thin Films in HfI[sub 4]-Based Processes. Journal of the Electrochemical Society, 2002, 149, F139.	2.9	42
34	Real-Time Monitoring in Atomic Layer Deposition of TiO2from TiI4and H2Oâ^'H2O2. Langmuir, 2000, 16, 8122-8128.	3.5	41
35	Effects of precursors on nucleation in atomic layer deposition of HfO2. Applied Surface Science, 2004, 230, 292-300.	6.1	39
36	Deposition and etching of tantalum oxide films in atomic layer epitaxy process. Journal of Crystal Growth, 1994, 144, 116-119.	1.5	38

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37	Engineering structure and properties of hafnium oxide films by atomic layer deposition temperature. Thin Solid Films, 2005, 479, 1-11.	1.8	36
38	Characterization of asymmetric rhombohedral twin in epitaxial Î±-Cr2O3 thin films by X-ray and electron diffraction. Thin Solid Films, 2007, 515, 4570-4579.	1.8	36
39	Influence of thickness and growth temperature on the properties of zirconium oxide films grown by atomic layer deposition on silicon. Thin Solid Films, 2002, 410, 53-60.	1.8	34
40	Atomic Layer Deposition of Tantalum Oxide Thin Films from Iodide Precursor. Chemistry of Materials, 2001, 13, 122-128.	6.7	33
41	Influence of TiO2 incorporation in HfO2 and Al2O3 based capacitor dielectrics. Thin Solid Films, 2007, 515, 6447-6451.	1.8	33
42	Atomic layer deposition of high capacitance density Ta2O5â€“ZrO2 based dielectrics for metalâ€“insulatorâ€“metal structures. Microelectronic Engineering, 2010, 87, 144-149.	2.4	33
43	Atomic layer deposition of Cr2O3 thin films: Effect of crystallization on growth and properties. Applied Surface Science, 2008, 254, 5149-5156.	6.1	31
44	Atomic layer deposition of high-quality Al2O3 and Al-doped TiO2 thin films from hydrogen-free precursors. Thin Solid Films, 2014, 565, 19-24.	1.8	31
45	Atomic Layer Deposition of Thin Films Using O2as Oxygen Source. Langmuir, 2001, 17, 5508-5512.	3.5	30
46	Structural study of TiO2 thin films by micro-Raman spectroscopy. Open Physics, 2006, 4, 105-116.	1.7	30
47	Atomic layer deposition of HfO2: Effect of structure development on growth rate, morphology and optical properties of thin films. Applied Surface Science, 2010, 257, 1043-1052.	6.1	30
48	Influence of carrier gas pressure and flow rate on atomic layer deposition of HfO2 and ZrO2 thin films. Applied Surface Science, 2006, 252, 5723-5734.	6.1	28
49	Temperature induced inversion of oxygen response in CVD graphene on SiO2. Sensors and Actuators B: Chemical, 2014, 190, 1006-1013.	7.8	28
50	Atomic layer deposition of Ru films from bis(2,5-dimethylpyrrolyl)ruthenium and oxygen. Thin Solid Films, 2012, 520, 2756-2763.	1.8	27
51	Impact of plasma treatment on electrical properties of TiO₂/RuO₂based DRAM capacitor. Journal Physics D: Applied Physics, 2013, 46, 385304.	2.8	27
52	Structure and morphology of Ru films grown by atomic layer deposition from 1-ethyl-1â€™-methyl-ruthenocene. Journal of Crystal Growth, 2010, 312, 2025-2032.	1.5	24
53	Chemical resistance of thin film materials based on metal oxides grown by atomic layer deposition. Thin Solid Films, 2013, 542, 219-224.	1.8	24
54	Electrical properties of TiO2-based MIM capacitors deposited by TiCl4 and TTIP based atomic layer deposition processes. Microelectronic Engineering, 2011, 88, 1514-1516.	2.4	21

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55	Nanoscale Characterization of TiO₂ Films Grown by Atomic Layer Deposition on RuO₂ Electrodes. ACS Applied Materials & Interfaces, 2014, 6, 2486-2492.	8.0	21
56	Hafnium tetraiodide and oxygen as precursors for atomic layer deposition of hafnium oxide thin films. Thin Solid Films, 2002, 418, 69-72.	1.8	20
57	Atomic layer deposition of HfO2 on graphene from HfCl4 and H2O. Open Physics, 2011, 9, 319-324.	1.7	20
58	Atomic layer deposition rate, phase composition and performance of HfO2 films on noble metal and alkoxylated silicon substrates. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2005, 118, 112-116.	3.5	19
59	Atomic Layer Deposition and Characterization of HfO[sub 2] Films on Noble Metal Film Substrates. Journal of the Electrochemical Society, 2005, 152, F75.	2.9	19
60	Atomic layer deposition of aluminum oxide films on graphene. IOP Conference Series: Materials Science and Engineering, 2013, 49, 012014.	0.6	18
61	Atomic layer deposition of high-permittivity TiO2dielectrics with low leakage current on RuO2in TiCl4-based processes. Semiconductor Science and Technology, 2012, 27, 074007.	2.0	17
62	Atomic layer deposition of rutile-phase TiO2 on RuO2 from TiCl4 and O3: Growth of high-permittivity dielectrics with low leakage current. Journal of Crystal Growth, 2013, 382, 61-66.	1.5	17
63	Influence of process parameters on atomic layer deposition of ZrO2 thin films from CpZr(NMe2)3 and H2O. Thin Solid Films, 2014, 565, 37-44.	1.8	17
64	Effect of preparation conditions on properties of atomic layer deposited TiO2 films in Moâ€“TiO2â€“Al stacks. Thin Solid Films, 2006, 510, 39-47.	1.8	16
65	Enhanced flexibility and electron-beam-controlled shape recovery in alumina-coated Au and Ag coreâ€“shell nanowires. Nanotechnology, 2017, 28, 505707.	2.6	15
66	Study of Thin Oxide Films by Electron, Ion and Synchrotron Radiation Beams. Mikrochimica Acta, 2002, 139, 165-169.	5.0	13
67	Oxygen Barrier Properties of Al2O3- and TiO2-coated LDPE Films. Polymer-Plastics Technology and Engineering, 2015, 54, 301-304.	1.9	13
68	Growth of Ti Al1â˜’O films by atomic layer deposition using successive supply of metal precursors. Thin Solid Films, 2015, 591, 276-284.	1.8	13
69	Platinum Sputtered on Nb-doped TiO₂ Films Prepared by ALD: Highly Active and Durable Carbon-free ORR Electrocatalyst. Journal of the Electrochemical Society, 2020, 167, 164505.	2.9	13
70	Precursor-dependent structural and electrical characteristics of atomic layer deposited films: Case study on titanium oxide. Materials Science in Semiconductor Processing, 2006, 9, 1084-1089.	4.0	12
71	Atomic layer deposition of epitaxial TiO2 II on c-sapphire. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2013, 31, .	2.1	12
72	Photoluminescence of atomic layer deposited ZrO2:Dy3+ thin films. Thin Solid Films, 2015, 583, 70-75.	1.8	11

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73	Chemical resistance of TiO2 and Al2O3 single-layer and multilayer coatings atomic layer deposited from hydrogen-free precursors on silicon and stainless steel. Materials Chemistry and Physics, 2019, 228, 285-292.	4.0	11
74	Influence of oxygen precursors on atomic layer deposition of HfO2 and hafnium-titanium oxide films: Comparison of O3- and H2O-based processes. Applied Surface Science, 2020, 530, 147229.	6.1	11
75	Atomic layer deposition of rutile and TiO2-II from TiCl4 and O3 on sapphire: Influence of substrate orientation on thin film structure. Journal of Crystal Growth, 2015, 428, 86-92.	1.5	9
76	Plasmon resonance effect caused by gold nanoparticles formed on titanium oxide films. Thin Solid Films, 2016, 616, 449-455.	1.8	9
77	Mechanical properties of crystalline and amorphous aluminum oxide thin films grown by atomic layer deposition. Surface and Coatings Technology, 2022, 438, 128409.	4.8	9
78	Low Equivalent Oxide Thickness TiO₂ Based Capacitors for DRAM Application. ECS Transactions, 2011, 41, 73-77.	0.5	8
79	Atomic layer deposition of epitaxial HfO₂ thin films on r-cut sapphire. Journal of Materials Research, 2013, 28, 1680-1686.	2.6	8
80	Atomic layer deposition of Zr<scp>O</scp>₂ for grapheneâ€based multilayer structures: In situ and ex situ characterization of growth process. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 397-402.	1.8	8
81	Low-Temperature Atomic Layer Deposition of Î±-Al₂O₃ Thin Films. Crystal Growth and Design, 2021, 21, 4220-4229.	3.0	8
82	<title>Optical properties of crystalline Al<formula><inf><roman>2</roman></inf></formula>0<formula><inf><roman>3</roman></inf></formula> thin films grown by atomic layer deposition</title>. , 2005, , .		7
83	Raman modes in transferred bilayer CVD graphene. Open Physics, 2015, 13, .	1.7	7
84	Dysprosium oxide and dysprosium-oxide-doped titanium oxide thin films grown by atomic layer deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2015, 33, .	2.1	6
85	Atomic layer deposition of high-k dielectrics on carbon nanoparticles. Thin Solid Films, 2013, 538, 16-20.	1.8	5
86	Atomic Layer Deposition and Characterization of Dysprosiumâ€Doped Zirconium Oxide Thin Films. Chemical Vapor Deposition, 2015, 21, 181-187.	1.3	5
87	Electron Probe Microanalysis of HfO2 Thin Films on Conductive and Insulating Substrates. Mikrochimica Acta, 2006, 155, 195-198.	5.0	4
88	Atomic-layer design and properties of Pr-doped HfO2 thin films. Journal of Alloys and Compounds, 2021, 868, 159100.	5.5	4
89	Ion-induced electron emission from different crystalline phases of ZrO2. Applied Physics Letters, 2006, 88, 211504.	3.3	3
90	<title>Spectrophotometric and Raman spectroscopic characterization of ALD grown TiO<formula><inf><roman>2</roman></inf></formula> thin films</title>. , 2006, 6596, 262.		3

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91	Magnetic and Electrical Performance of Atomic Layer Deposited Iron Erbium Oxide Thin Films. ACS Omega, 2017, 2, 8836-8842.	3.5	3
92	Structure and Electrical Behavior of Hafnium-Praseodymium Oxide Thin Films Grown by Atomic Layer Deposition. Materials, 2022, 15, 877.	2.9	2
93	Influence of Î±-Al2O3 Template and Process Parameters on Atomic Layer Deposition and Properties of Thin Films Containing High-Density TiO2 Phases. Coatings, 2021, 11, 1280.	2.6	1
94	DISORDERED STRUCTURE AND DENSITY OF GAP STATES IN HIGH-PERMITTIVITY THIN SOLID FILMS. , 2006, , 123-134.		1
95	Structure and Electrical Properties of Zirconium-Aluminum-Oxide Films Engineered by Atomic Layer Deposition. Coatings, 2022, 12, 431.	2.6	1
96	Engineering of atomic layer deposition process for titanium-aluminum-oxide based resistively switching medium. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2022, 282, 115797.	3.5	1
97	Spectral-spatial redistribution of self-trapped excitonic emission in thin anatase films. , 2003, , .		0
98	<title>Structural study of ZrO<formula><inf><roman>2</roman></inf></formula> and HfO<formula><inf><roman>2</roman></inf></formula> thin films grown by atomic layer deposition</title>. , 2005, , .		0