

John G Ekerdt

List of Publications by Year in descending order

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114
papers

2,061
citations

236612

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h-index

276539

41
g-index

114
all docs

114
docs citations

114
times ranked

3177
citing authors

#	ARTICLE	IF	CITATIONS
1	A silicon-based photocathode for water reduction with an epitaxial SrTiO ₃ protection layer and a nanostructured catalyst. <i>Nature Nanotechnology</i> , 2015, 10, 84-90.	15.6	353
2	Atomic layer deposition of perovskite oxides and their epitaxial integration with Si, Ge, and other semiconductors. <i>Applied Physics Reviews</i> , 2015, 2, .	5.5	76
3	Area-Selective Deposition of Ruthenium by Combining Atomic Layer Deposition and Selective Etching. <i>Chemistry of Materials</i> , 2019, 31, 3878-3882.	3.2	71
4	Preparation and characterization of WO ₃ /SiO ₂ catalysts. <i>Catalysis Letters</i> , 1995, 33, 209-215.	1.4	70
5	Epitaxial <i>c</i> -axis oriented BaTiO ₃ thin films on SrTiO ₃ -buffered Si(001) by atomic layer deposition. <i>Applied Physics Letters</i> , 2014, 104, .	1.5	59
6	Monolayer dispersion of molybdenum on silica. <i>Catalysis Letters</i> , 1992, 16, 77-83.	1.4	54
7	Anodized Nickel Foam for Oxygen Evolution Reaction in Fe-Free and Unpurified Alkaline Electrolytes at High Current Densities. <i>ACS Nano</i> , 2021, 15, 3468-3480.	7.3	54
8	Decomposition of a phenolic lignin model compound over organic N-bases in an ionic liquid. <i>Holzforschung</i> , 2010, 64, .	0.9	49
9	Pulsed Laser Deposition of Epitaxial and Polycrystalline Bismuth Vanadate Thin Films. <i>Journal of Physical Chemistry C</i> , 2014, 118, 26543-26550.	1.5	49
10	Enhanced Photoluminescence of Monolayer WS ₂ on Ag Films and Nanowire-WS ₂ -Film Composites. <i>ACS Photonics</i> , 2017, 4, 1421-1430.	3.2	46
11	Time-to-failure analysis of 5Ånm amorphous Ru(P) as a copper diffusion barrier. <i>Thin Solid Films</i> , 2009, 517, 1645-1649.	0.8	44
12	Epitaxial strontium titanate films grown by atomic layer deposition on SrTiO ₃ -buffered Si(001) substrates. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2013, 31, .	0.9	44
13	Atomic layer deposition of crystalline SrHfO ₃ directly on Ge (001) for high- <i>k</i> dielectric applications. <i>Journal of Applied Physics</i> , 2015, 117, .	1.1	43
14	Chemical vapor deposition of amorphous ruthenium-phosphorus alloy films. <i>Thin Solid Films</i> , 2007, 515, 5298-5307.	0.8	40
15	A Chemical Route to Monolithic Integration of Crystalline Oxides on Semiconductors. <i>Advanced Materials Interfaces</i> , 2014, 1, 1400081.	1.9	40
16	Atomic Layer Deposition of Lanthanum Stabilized Amorphous Hafnium Oxide Thin Films. <i>Chemistry of Materials</i> , 2009, 21, 3096-3101.	3.2	39
17	Hafnia: Energetics of thin films and nanoparticles. <i>Journal of Applied Physics</i> , 2010, 107, .	1.1	36
18	High ON/OFF Ratio and Quantized Conductance in Resistive Switching of TiO_2 on Silicon. <i>IEEE Electron Device Letters</i> , 2013, 34, 1385-1387.	2.2	31

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19	Epitaxial growth of LaAlO ₃ on SrTiO ₃ -buffered Si (001) substrates by atomic layer deposition. Journal of Crystal Growth, 2013, 363, 150-157.	0.7	31
20	Quasi-two-dimensional electron gas at the interface of \hat{I}^3 -Al ₂ O ₃ /SrTiO ₃ heterostructures grown by atomic layer deposition. Journal of Applied Physics, 2015, 118, .	1.1	30
21	Increasing the Efficiency of the Photocatalytic Oxidation of Organic Films on Aqueous Solutions by Reactively Coating the TiO ₂ Photocatalyst with a Chlorinated Silicone. Journal of Physical Chemistry B, 1997, 101, 2621-2624.	1.2	29
22	Atomic layer deposition of photoactive CoO/SrTiO ₃ and CoO/TiO ₂ on Si(001) for visible light driven photoelectrochemical water oxidation. Journal of Applied Physics, 2013, 114, .	1.1	29
23	Materials for emergent silicon-integrated optical computing. Journal of Applied Physics, 2021, 130, 070907.	1.1	27
24	XPS Investigation of the Atomic Layer Deposition Half Reactions of Bis(N- <i>tert</i> -butyl-N \hat{e} ² -ethylpropionamidinato) Cobalt(II). Chemistry of Materials, 2014, 26, 2642-2646.	3.2	26
25	Selective Growth of Titanium Nitride on HfO ₂ across Nanolines and Nanopillars. Chemistry of Materials, 2016, 28, 4928-4934.	3.2	26
26	Atomic Interdiffusion and Diffusive Stabilization of Cobalt by Copper During Atomic Layer Deposition from Bis(<i>N</i> - <i>tert</i> -butyl- <i>N</i> \hat{e} ² -ethylpropionamidinato) Cobalt(II). Journal of Physical Chemistry Letters, 2014, 5, 1091-1095.	2.1	23
27	High-Performance Vertical Gate-All-Around Silicon Nanowire FET With High- κ Metal Gate. IEEE Transactions on Electron Devices, 2014, 61, 3896-3900.	1.6	22
28	Effect of SrTiO ₃ oxygen vacancies on the conductivity of LaTiO ₃ /SrTiO ₃ heterostructures. Journal of Applied Physics, 2018, 124, 185303.	1.1	22
29	Long-life LiNi _{0.5} Mn _{1.5} O ₄ /graphite lithium-ion cells with an artificial graphite-electrolyte interface. Energy Storage Materials, 2021, 43, 499-508.	9.5	22
30	Growth of epitaxial oxides on silicon using atomic layer deposition: Crystallization and annealing of TiO ₂ on SrTiO ₃ -buffered Si(001). Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2012, 30, 04E111.	0.6	19
31	Atomic layer deposition of epitaxial ferroelectric barium titanate on Si(001) for electronic and photonic applications. Journal of Applied Physics, 2019, 126, .	1.1	19
32	Epitaxial, electro-optically active barium titanate thin films on silicon by chemical solution deposition. Journal of the American Ceramic Society, 2020, 103, 1209-1218.	1.9	17
33	Ge interactions on HfO ₂ surfaces and kinetically driven patterning of Ge nanocrystals on HfO ₂ . Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2006, 24, 78-83.	0.9	16
34	Investigation of Volmer-Weber growth mode kinetics for germanium nanoparticles on hafnia. Journal of Applied Physics, 2007, 102, 114912.	1.1	16
35	Chemical routes to ultra thin films for copper barriers and liners. Surface and Coatings Technology, 2007, 201, 9256-9259.	2.2	16
36	Titration of Free Hydroxyl and Strained Siloxane Sites on Silicon Dioxide with Fluorescent Probes. Langmuir, 2013, 29, 11868-11875.	1.6	15

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37	Effect of CO on Ru Nucleation and Ultra-Smooth Thin Film Growth by Chemical Vapor Deposition at Low Temperature. Chemistry of Materials, 2013, 25, 1793-1799.	3.2	15
38	Incorporation of La in epitaxial SrTiO ₃ thin films grown by atomic layer deposition on SrTiO ₃ -buffered Si (001) substrates. Journal of Applied Physics, 2014, 115, .	1.1	15
39	Area-selective atomic layer deposition of cobalt oxide to generate patterned cobalt films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2019, 37, .	0.9	15
40	Importance of evaporation in the design of materials for step and flash imprint lithography. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2005, 23, 1515.	1.6	13
41	Monolithic integration of perovskites on Ge(001) by atomic layer deposition: a case study with SrHf _x Ti _{1-x} O ₃ . MRS Communications, 2016, 6, 125-132.	0.8	13
42	Epitaxial growth of barium titanate thin films on germanium via atomic layer deposition. Journal of Crystal Growth, 2017, 476, 6-11.	0.7	13
43	Subnanoscale Lanthanum Distribution in Lanthanum-Incorporated Hafnium Oxide Thin Films Grown Using Atomic Layer Deposition. Chemistry of Materials, 2010, 22, 3798-3806.	3.2	12
44	Optical properties of La-incorporated HfO ₂ upon crystallization. Applied Physics Letters, 2011, 98, 122904.	1.5	12
45	Integrated films of transition metal oxides for information technology. Microelectronic Engineering, 2015, 147, 285-289.	1.1	12
46	Atomic layer deposition of cobalt oxide on oxide substrates and low temperature reduction to form ultrathin cobalt metal films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2019, 37, .	0.9	12
47	Gas-Phase Reaction Study of Disilane Pyrolysis: Applications to Low Pressure Chemical Vapor Deposition. Journal of the Electrochemical Society, 1994, 141, 2135-2140.	1.3	11
48	Detection of Low-Density Surface Sites on Silica: Experimental Evidence of Intrinsic Oxygen-Vacancy Defects. Chemistry of Materials, 2014, 26, 2166-2171.	3.2	11
49	Precursor dependent nucleation and growth of ruthenium films during chemical vapor deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2016, 34, .	0.9	11
50	Zintl layer formation during perovskite atomic layer deposition on Ge (001). Journal of Chemical Physics, 2017, 146, 052817.	1.2	11
51	APPLICATION OF PHOTOCATALYTIC HOLLOW GLASS MICROBEADS IN THE CLEANUP OF OIL SPILLS. International Oil Spill Conference Proceedings, 1993, 1993, 623-627.	0.1	11
52	Cubic crystalline erbium oxide growth on GaN(0001) by atomic layer deposition. Journal of Applied Physics, 2017, 122, .	1.1	10
53	Influence of surface chemistry on photoluminescence from deuterium-passivated silicon nanocrystals. Journal of Applied Physics, 2009, 106, 063121.	1.1	9
54	Coverage-Dependent Luminescence from Two-Dimensional Systems of Covalently Attached Perylene Fluorophores on Silica. Journal of Physical Chemistry C, 2014, 118, 2104-2114.	1.5	9

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55	Ru nucleation and thin film smoothness improvement with ammonia during chemical vapor deposition. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2016, 34, .	0.9	9
56	A Low-Leakage Epitaxial High- κ Gate Oxide for Germanium Metal-Oxide-Semiconductor Devices. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 5416-5423.	4.0	9
57	Crystalline SrZrO ₃ deposition on Ge (001) by atomic layer deposition for high- κ dielectric applications. <i>Journal of Applied Physics</i> , 2018, 124, .	1.1	9
58	Area-Selective Atomic Layer Deposition of Crystalline BaTiO ₃ . <i>Chemistry of Materials</i> , 2019, 31, 5558-5565.	3.2	9
59	Composition and annealing effects on the linear electro-optic response of solution-deposited barium strontium titanate. <i>Journal of the American Ceramic Society</i> , 2020, 103, 5700-5705.	1.9	9
60	Epitaxial growth of high- κ Ba _x Sr _{1-x} TiO ₃ thin films on SrTiO ₃ (001) substrates by atomic layer deposition. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2020, 38, .	0.9	9
61	Atomic layer deposition and selective etching of ruthenium for area-selective deposition: Temperature dependence and supercycle design. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2021, 39, .	0.9	9
62	Miniature Passive Wireless Resonant Platform for Chemical Memory-Based Threshold Sensing. <i>IEEE Sensors Journal</i> , 2017, 17, 1209-1210.	2.4	8
63	Atomic layer deposition of ruthenium using an ABC-type process: Role of oxygen exposure during nucleation. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2020, 38, .	0.9	8
64	Direct Observation of Large Atomic Polar Displacements in Epitaxial Barium Titanate Thin Films. <i>Advanced Materials Interfaces</i> , 2020, 7, 2000555.	1.9	8
65	Electro-optic response in epitaxially stabilized orthorhombic $m \times m \times 2O_3$. <i>Physical Review Materials</i> , 2021, 5, .	0.9	8
66	Surface reactions and kinetically-driven patterning scheme for selective deposition of Si and Ge nanoparticle arrays on HfO ₂ . <i>Surface Science</i> , 2006, 600, 54-57.	0.8	7
67	Interaction of germanium with silicon dioxide. <i>Surface Science</i> , 2008, 602, 2796-2800.	0.8	7
68	Recent studies of oxide-semiconductor heterostructures using aberration-corrected scanning transmission electron microscopy. <i>Journal of Materials Research</i> , 2017, 32, 912-920.	1.2	7
69	Vacuum Ultraviolet-Enhanced Oxidation—A Route to the Atomic Layer Etching of Palladium Metal. <i>Chemistry of Materials</i> , 2020, 32, 6035-6042.	3.2	7
70	Long-Term Cycling of a Mn-Rich High-Voltage Spinel Cathode by Stabilizing the Surface with a Small Dose of Iron. <i>ACS Applied Energy Materials</i> , 2021, 4, 13297-13306.	2.5	7
71	Selective silicon nanoparticle growth on high-density arrays of silicon nitride. <i>Journal of Crystal Growth</i> , 2007, 308, 269-277.	0.7	6
72	Chemical vapor deposition of ruthenium-phosphorus alloy thin films: Using phosphine as the phosphorus source. <i>Thin Solid Films</i> , 2014, 558, 160-164.	0.8	6

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73	Resonance enhanced multiphonon ionization of silicon produced during disilane pyrolysis. Journal of Applied Physics, 1994, 76, 3144-3148.	1.1	5
74	Chemistry of Silicon Nanocrystal Surfaces Exposed to Ammonia. Journal of Physical Chemistry C, 2010, 114, 16924-16928.	1.5	5
75	A Career in Catalysis: Alexis T. Bell. ACS Catalysis, 2017, 7, 8628-8640.	5.5	5
76	Integration of ferroelectric BaTiO ₃ with Ge: The role of a SrTiO ₃ buffer layer investigated using aberration-corrected STEM. Applied Physics Letters, 2017, 110, .	1.5	5
77	Epitaxial BaSnO ₃ and SrSnO ₃ perovskite growth on SrTiO ₃ (001) via atomic layer deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2019, 37, 050902.	0.9	5
78	Role of template layers for heteroepitaxial growth of lanthanum oxide on GaN(0001) via atomic layer deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2020, 38, .	0.9	5
79	Epitaxial integration of ferroelectric and conductive perovskites on silicon. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2020, 38, .	0.9	5
80	Vacuum ultraviolet enhanced atomic layer etching of ruthenium films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2021, 39, .	0.9	5
81	The Role of Substrate Transport in Catalyst Activity. ACS Symposium Series, 1986, , 68-83.	0.5	4
82	Effect of Surface Chemistry on Quantum Confinement and Photoluminescence of Ammonia-Passivated Silicon Nanocrystals. Journal of Physical Chemistry Letters, 2010, 1, 1957-1961.	2.1	4
83	Hot-wire CVD of Ge nanoparticles on Si-etched silicon dioxide. Journal of Crystal Growth, 2011, 321, 131-135.	0.7	4
84	First-principles predictions of ruthenium-phosphorus and ruthenium-boron glassy structures and chemical vapor deposition of thin amorphous ruthenium-boron alloy films. Thin Solid Films, 2017, 622, 56-64.	0.8	4
85	Interactions of Ge Atoms with High- κ Oxide Dielectric Surfaces. Materials Research Society Symposia Proceedings, 2005, 879, 1.	0.1	4
86	Epitaxial growth by atomic layer deposition and properties of high- κ barium strontium titanate on Zintl-templated Ge (001) substrates. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2022, 40, .	0.9	4
87	Diffusion of cyclic hydrocarbons in benzene-swollen, divinylbenzene-crosslinked polystyrene beads. Journal of Applied Polymer Science, 1982, 27, 3841-3849.	1.3	3
88	Elaboration and quantitative investigation of BCN-type films by dynamic SIMS using the MCs x + mode. Surface and Interface Analysis, 2011, 43, 669-672.	0.8	3
89	Theoretical modeling and experimental observations of the atomic layer deposition of SrO using a cyclopentadienyl Sr precursor. Journal of Chemical Physics, 2016, 145, 064701.	1.2	3
90	Monolithic integration of metal-ferroelectric-semiconductor heterostructure using atomic layer deposition. Proceedings of SPIE, 2017, , .	0.8	3

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91	Preventing carbon contamination of Ge (001) during atomic layer deposition with a barium-based Zintl layer. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2018, 36, .	0.9	3
92	Strain-dependence of $\epsilon(2)$ in thin film barium strontium titanate. <i>AIP Advances</i> , 2019, 9, .	0.6	3
93	Dielectric breakdown in epitaxial BaTiO ₃ thin films. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2020, 38, 044007.	0.6	3
94	A Vacuum Ultraviolet-Enhanced Oxidation Mechanism for Pd: Near-Surface Oxidation for Atomic Layer Etching. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 50985-50995.	4.0	3
95	Adsorption and Reaction of Carbon Dioxide on Zirconium Dioxide. <i>ACS Symposium Series</i> , 1988, , 123-132.	0.5	2
96	Single Source Precursors for III-V OMCVD Growth and Pyrolysis Studies. <i>Materials Research Society Symposia Proceedings</i> , 1990, 204, 73.	0.1	2
97	Epitaxial Growth of Perovskite Strontium Titanate on Germanium via Atomic Layer Deposition. <i>Journal of Visualized Experiments</i> , 2016, , .	0.2	2
98	Control of Nucleation to Realize High Density Si Nanoparticles on SiO ₂ Thin Films. <i>Materials Research Society Symposia Proceedings</i> , 2001, 704, 10101.	0.1	1
99	Influence of Thermal Treatments on the Chemistry and Self-Assembly of Ge Nanoparticles on SiO ₂ Surfaces. <i>Materials Research Society Symposia Proceedings</i> , 2004, 830, 72.	0.1	1
100	Directed self assembly of nanocrystals within macroscopic to nanoscopic features. <i>Materials Research Society Symposia Proceedings</i> , 2005, 901, 1.	0.1	1
101	CVD Boron Carbo-Nitride as Pore Sealant for Ultra Low-K Interlayer Dielectrics. <i>Materials Research Society Symposia Proceedings</i> , 2005, 863, B6.8-1.	0.1	1
102	Epitaxy: A Chemical Route to Monolithic Integration of Crystalline Oxides on Semiconductors (Adv.) <i>Tj ETQq0 0 0 rgBT /Overlap 10 Tf 5</i>	0.9	1
103	Chemical nature of active sites for defect-mediated nucleation on silicon dioxide. <i>AIChE Journal</i> , 2016, 62, 367-372.	1.8	1
104	Engineering nanoscale polarization at the SrTiO ₃ /Ge interface. <i>Scripta Materialia</i> , 2020, 178, 489-492.	2.6	1
105	A Model for Heterogeneous Nucleation and Growth of Silicon Nanoparticles on Silicon Dioxide from Disilane. <i>Materials Research Society Symposia Proceedings</i> , 2001, 686, 1.	0.1	0
106	Core-shell germanium-silicon nanoparticle structure for high κ nonvolatile memory applications. , 2007, , .		0
107	Oxygen Vacancies at the $\hat{\Gamma}^3$ -Al ₂ O ₃ /STO Heterointerface Grown by Atomic Layer Deposition. <i>Materials Research Society Symposia Proceedings</i> , 2015, 1730, 14.	0.1	0
108	Characterization of Two-Dimensional Electron Gas at the γ -Al ₂ O ₃ /SrTiO ₃ Interface. <i>Microscopy and Microanalysis</i> , 2015, 21, 1309-1310.	0.2	0

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109	ELNES analysis of \hat{I}^3 -Al ₂ O ₃ /SrTiO ₃ and LaTiO ₃ /SrTiO ₃ interfaces. Microscopy and Microanalysis, 2016, 22, 1660-1661.	0.2	0
110	Materials science of Ru and Ru alloy thin films for barrier applications. , 2016, , .		0
111	Functionalized Polycyclic Aromatic Polymers for High Temperature Wireless Chemical Memory Threshold Sensors. Industrial & Engineering Chemistry Research, 2017, 56, 5479-5482.	1.8	0
112	ELNES spectrum unmixing and mapping for oxide/oxide interfaces.. Microscopy and Microanalysis, 2017, 23, 1588-1589.	0.2	0
113	Aberration-corrected STEM Imaging and EELS Mapping of BaTiO ₃ /SrTiO ₃ Interfacial Defects. Microscopy and Microanalysis, 2017, 23, 1598-1599.	0.2	0
114	Manipulating the Dielectric Properties of Crystalline Perovskite Films through Isovalent A-site Cation Substitution. ECS Meeting Abstracts, 2021, MA2021-02, 859-859.	0.0	0