

Han-Bo-Ram Lee

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119 papers	5,191 citations	37 h-index	69 g-index
134 ext. papers	5,744 ext. citations	6.9 avg, IF	5.82 L-index

#	Paper	IF	Citations
119	Atomic layer deposition of metal oxides on pristine and functionalized graphene. <i>Journal of the American Chemical Society</i> , 2008 , 130, 8152-3	16.4	562
118	Applications of atomic layer deposition to nanofabrication and emerging nanodevices. <i>Thin Solid Films</i> , 2009 , 517, 2563-2580	2.2	475
117	Utilization of a buffered dielectric to achieve high field-effect carrier mobility in graphene transistors. <i>Nano Letters</i> , 2009 , 9, 4474-8	11.5	310
116	Active MnOx Electrocatalysts Prepared by Atomic Layer Deposition for Oxygen Evolution and Oxygen Reduction Reactions. <i>Advanced Energy Materials</i> , 2012 , 2, 1269-1277	21.8	269
115	Flexible wireless temperature sensors based on Ni microparticle-filled binary polymer composites. <i>Advanced Materials</i> , 2013 , 25, 850-5	24	240
114	Selective metal deposition at graphene line defects by atomic layer deposition. <i>Nature Communications</i> , 2014 , 5, 4781	17.4	196
113	Seeding atomic layer deposition of high-k dielectrics on epitaxial graphene with organic self-assembled monolayers. <i>ACS Nano</i> , 2011 , 5, 5223-32	16.7	149
112	One-step hydrothermal synthesis of graphene decorated V2O5 nanobelts for enhanced electrochemical energy storage. <i>Scientific Reports</i> , 2015 , 5, 8151	4.9	141
111	Atomic Layer Deposition on 2D Materials. <i>Chemistry of Materials</i> , 2017 , 29, 3809-3826	9.6	119
110	Self-assembly based plasmonic arrays tuned by atomic layer deposition for extreme visible light absorption. <i>Nano Letters</i> , 2013 , 13, 3352-7	11.5	104
109	Wafer-scale, conformal and direct growth of MoS2 thin films by atomic layer deposition. <i>Applied Surface Science</i> , 2016 , 365, 160-165	6.7	96
108	Hydrophobicity of Rare Earth Oxides Grown by Atomic Layer Deposition. <i>Chemistry of Materials</i> , 2015 , 27, 148-156	9.6	90
107	Effects of self-assembled monolayers on solid-state CdS quantum dot sensitized solar cells. <i>ACS Nano</i> , 2011 , 5, 1495-504	16.7	84
106	High-Quality Cobalt Thin Films by Plasma-Enhanced Atomic Layer Deposition. <i>Electrochemical and Solid-State Letters</i> , 2006 , 9, G323		82
105	Thermal and plasma enhanced atomic layer deposition ruthenium and electrical characterization as a metal electrode. <i>Microelectronic Engineering</i> , 2008 , 85, 39-44	2.5	80
104	Growth of Pt nanowires by atomic layer deposition on highly ordered pyrolytic graphite. <i>Nano Letters</i> , 2013 , 13, 457-63	11.5	78
103	Atomic Layer Deposition of Ni Thin Films and Application to Area-Selective Deposition. <i>Journal of the Electrochemical Society</i> , 2011 , 158, D1	3.9	72

102	Atomic Layer Deposition of CdS Quantum Dots for Solid-State Quantum Dot Sensitized Solar Cells. <i>Advanced Energy Materials</i> , 2011 , 1, 1169-1175	21.8	69
101	Deposition of Ultrathin Polythiourea Films by Molecular Layer Deposition. <i>Chemistry of Materials</i> , 2010 , 22, 5563-5569	9.6	66
100	Microstructure-Dependent Nucleation in Atomic Layer Deposition of Pt on TiO ₂ . <i>Chemistry of Materials</i> , 2012 , 24, 279-286	9.6	62
99	Fluorine functionalization of epitaxial graphene for uniform deposition of thin high- κ dielectrics. <i>Carbon</i> , 2012 , 50, 2307-2314	10.4	62
98	Self-Limiting Layer Synthesis of Transition Metal Dichalcogenides. <i>Scientific Reports</i> , 2016 , 6, 18754	4.9	62
97	High Quality Area-Selective Atomic Layer Deposition Co Using Ammonia Gas as a Reactant. <i>Journal of the Electrochemical Society</i> , 2010 , 157, D10	3.9	60
96	Atomic Layer Deposition for Semiconductors 2014 ,		55
95	Area-Selective Atomic Layer Deposition Using Si Precursors as Inhibitors. <i>Chemistry of Materials</i> , 2018 , 30, 7603-7610	9.6	52
94	Reaction Mechanism of Area-Selective Atomic Layer Deposition for AlO Nanopatterns. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 41607-41617	9.5	50
93	Nucleation-Controlled Growth of Nanoparticles by Atomic Layer Deposition. <i>Chemistry of Materials</i> , 2012 , 24, 4051-4059	9.6	47
92	Nanoconfined Atomic Layer Deposition of TiO ₂ /Pt Nanotubes: Toward Ultrasmall Highly Efficient Catalytic Nanorockets. <i>Advanced Functional Materials</i> , 2017 , 27, 1700598	15.6	46
91	Improved Corrosion Resistance and Mechanical Properties of CrN Hard Coatings with an Atomic Layer Deposited Al ₂ O ₃ Interlayer. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 26716-25	9.5	46
90	Internal and external atomic steps in graphite exhibit dramatically different physical and chemical properties. <i>ACS Nano</i> , 2015 , 9, 3814-9	16.7	43
89	Highly conductive and flexible fiber for textile electronics obtained by extremely low-temperature atomic layer deposition of Pt. <i>NPG Asia Materials</i> , 2016 , 8, e331-e331	10.3	41
88	2011 ,		41
87	A composite layer of atomic-layer-deposited Al ₂ O ₃ and graphene for flexible moisture barrier. <i>Carbon</i> , 2017 , 116, 553-561	10.4	40
86	Vapor transport deposition and epitaxy of orthorhombic SnS on glass and NaCl substrates. <i>Applied Physics Letters</i> , 2013 , 103, 052105	3.4	40
85	Atomic layer deposited aluminum oxide films on graphite and graphene studied by XPS and AFM. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2010 , 7, 398-401		39

84	Nucleation and Growth of the HfO ₂ Dielectric Layer for Graphene-Based Devices. <i>Chemistry of Materials</i> , 2015 , 27, 5868-5877	9.6	37
83	Effect of O ₃ on Growth of Pt by Atomic Layer Deposition. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 12325-12332	3.8	36
82	Distribution of oxygen functional groups of graphene oxide obtained from low-temperature atomic layer deposition of titanium oxide. <i>RSC Advances</i> , 2017 , 7, 13979-13984	3.7	32
81	Area Selective Atomic Layer Deposition of Cobalt Thin Films. <i>ECS Transactions</i> , 2009 , 16, 219-225	1	31
80	Spontaneous formation of vertical magnetic-metal-nanorod arrays during plasma-enhanced atomic layer deposition. <i>Small</i> , 2008 , 4, 2247-54	11	31
79	The low temperature atomic layer deposition of ruthenium and the effect of oxygen exposure. <i>Journal of Materials Chemistry</i> , 2012 , 22, 25154		29
78	Nanopatterning by Area-Selective Atomic Layer Deposition 2012 , 193-225		29
77	Atomic layer deposition of Y-stabilized ZrO ₂ for advanced DRAM capacitors. <i>Journal of Alloys and Compounds</i> , 2017 , 722, 307-312	5.7	28
76	Atomic Layer Deposition of Co Using N ₂ H ₂ Plasma as a Reactant. <i>Journal of the Electrochemical Society</i> , 2011 , 158, H1179	3.9	27
75	Plasma-Enhanced Atomic Layer Deposition of Cobalt Using Cyclopentadienyl Isopropyl Acetamidinato-Cobalt as a Precursor. <i>Japanese Journal of Applied Physics</i> , 2010 , 49, 05FA10	1.4	25
74	Nitride mediated epitaxy of CoSi ₂ through self-interlayer-formation of plasma-enhanced atomic layer deposition Co. <i>Applied Physics Letters</i> , 2007 , 90, 213509	3.4	25
73	Formation of Continuous Pt Films on the Graphite Surface by Atomic Layer Deposition with Reactive O ₃ . <i>Chemistry of Materials</i> , 2015 , 27, 6802-6809	9.6	24
72	Highly-conformal nanocrystalline molybdenum nitride thin films by atomic layer deposition as a diffusion barrier against Cu. <i>Journal of Alloys and Compounds</i> , 2016 , 663, 651-658	5.7	24
71	Reversible Liquid Adhesion Switching of Superamphiphobic Pd-Decorated Ag Dendrites via Gas-Induced Structural Changes. <i>Chemistry of Materials</i> , 2015 , 27, 4964-4971	9.6	23
70	Growth characteristics and electrical properties of SiO ₂ thin films prepared using plasma-enhanced atomic layer deposition and chemical vapor deposition with an aminosilane precursor. <i>Journal of Materials Science</i> , 2016 , 51, 5082-5091	4.3	23
69	Comparative study of the growth characteristics and electrical properties of atomic-layer-deposited HfO ₂ films obtained from metal halide and amide precursors. <i>Journal of Materials Chemistry C</i> , 2018 , 6, 7367-7376	7.1	23
68	Plasma-Enhanced Atomic Layer Deposition of Ni. <i>Japanese Journal of Applied Physics</i> , 2010 , 49, 05FA11	1.4	23
67	Area Selective Atomic Layer Deposition by Microcontact Printing with a Water-Soluble Polymer. <i>Journal of the Electrochemical Society</i> , 2010 , 157, D600	3.9	23

66	Complementary Unipolar WS ₂ Field-Effect Transistors Using Fermi-Level Depinning Layers. <i>Advanced Electronic Materials</i> , 2016 , 2, 1500278	6.4	22
65	The Degradation of Deposition Blocking Layer during Area Selective Plasma Enhanced Atomic Layer Deposition of Cobalt. <i>Journal of the Korean Physical Society</i> , 2010 , 56, 104-107	0.6	22
64	A controlled growth of WN _x and WC _x thin films prepared by atomic layer deposition. <i>Materials Letters</i> , 2016 , 168, 218-222	3.3	22
63	Atomic level deposition to extend Moore's law and beyond. <i>International Journal of Extreme Manufacturing</i> , 2020 , 2, 022002	7.9	22
62	Plasma-enhanced atomic layer deposition of Co using Co(MeCp) ₂ precursor. <i>Journal of Energy Chemistry</i> , 2013 , 22, 403-407	12	19
61	Molecular oxidation of surface CH ₃ during atomic layer deposition of Al ₂ O ₃ with H ₂ O, H ₂ O ₂ , and O ₃ : A theoretical study. <i>Applied Surface Science</i> , 2018 , 457, 376-380	6.7	18
60	Initial Stage Growth during Plasma-Enhanced Atomic Layer Deposition of Cobalt. <i>Chemical Vapor Deposition</i> , 2012 , 18, 41-45		18
59	Plasma-enhanced atomic layer deposition of SnO ₂ thin films using SnCl ₄ and O ₂ plasma. <i>Materials Letters</i> , 2016 , 166, 163-166	3.3	17
58	In situ surface cleaning on a Ge substrate using TMA and MgCp ₂ for HfO ₂ -based gate oxides. <i>Journal of Materials Chemistry C</i> , 2015 , 3, 4852-4858	7.1	17
57	Self-formation of dielectric layer containing CoSi ₂ nanocrystals by plasma-enhanced atomic layer deposition. <i>Journal of Crystal Growth</i> , 2010 , 312, 2215-2219	1.6	15
56	Effects of Al Precursors on Deposition Selectivity of Atomic Layer Deposition of Al ₂ O ₃ Using Ethanethiol Inhibitor. <i>Chemistry of Materials</i> , 2020 , 32, 8921-8929	9.6	15
55	Contact resistance reduction using Fermi level de-pinning layer for MoS ₂ FETs 2014 ,		14
54	Highly sensitive, patternable organic films at the nanoscale made by bottom-up assembly. <i>ACS Applied Materials & Interfaces</i> , 2013 , 5, 3691-6	9.5	14
53	A facile method for the selective decoration of graphene defects based on a galvanic displacement reaction. <i>NPG Asia Materials</i> , 2016 , 8, e262-e262	10.3	14
52	Effect of h-BN coating on nucleate boiling heat transfer performance in pool boiling. <i>Experimental Thermal and Fluid Science</i> , 2018 , 98, 12-19	3	14
51	Analysis of Defect Recovery in Reduced Graphene Oxide and Its Application as a Heater for Self-Healing Polymers. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 16804-16814	9.5	13
50	Tunable Color Coating of E-Textiles by Atomic Layer Deposition of Multilayer TiO ₂ /AlO ₃ Films. <i>Langmuir</i> , 2020 , 36, 2794-2801	4	12
49	Supercritical Fluid Deposition of Conformal SrTiO ₃ Films with Composition Uniformity in Nanocontact Holes. <i>Electrochemical and Solid-State Letters</i> , 2009 , 12, D45		12

48	Comparison of hydrogen sulfide gas and sulfur powder for synthesis of molybdenum disulfide nanosheets. <i>Current Applied Physics</i> , 2016 , 16, 691-695	2.6	12
47	High efficiency n-Si/p-Cu ₂ O core-shell nanowires photodiode prepared by atomic layer deposition of Cu ₂ O on well-ordered Si nanowires array. <i>Electronic Materials Letters</i> , 2016 , 12, 404-410	2.9	12
46	Effects of Cl-Based Ligand Structures on Atomic Layer Deposited HfO ₂ . <i>Journal of Physical Chemistry C</i> , 2016 , 120, 5958-5967	3.8	11
45	Dual Role of Sb-Incorporated Buffer Layers for High Efficiency Cuprous Oxide Photocathodic Performance: Remarkably Enhanced Crystallinity and Effective Hole Transport. <i>ACS Sustainable Chemistry and Engineering</i> , 2017 , 5, 8213-8221	8.3	11
44	Very high frequency plasma reactant for atomic layer deposition. <i>Applied Surface Science</i> , 2016 , 387, 109-117	6.7	11
43	Growth mechanism of Co thin films formed by plasma-enhanced atomic layer deposition using NH ₃ as plasma reactant. <i>Current Applied Physics</i> , 2017 , 17, 333-338	2.6	10
42	Fabrication of 50 nm scale Pt nanostructures by block copolymer (BCP) and its characteristics of surface-enhanced Raman scattering (SERS). <i>RSC Advances</i> , 2016 , 6, 70756-70762	3.7	9
41	Area-selective chemical vapor deposition of Co for Cu capping layer. <i>Current Applied Physics</i> , 2016 , 16, 88-92	2.6	9
40	Atomic layer deposition of 1D and 2D nickel nanostructures on graphite. <i>Nanotechnology</i> , 2017 , 28, 115301	3.4	8
39	Thermal atomic layer deposition of metallic Ru using H ₂ O as a reactant. <i>Applied Surface Science</i> , 2019 , 488, 896-902	6.7	8
38	Moisture barrier properties of low-temperature atomic layer deposited Al ₂ O ₃ using various oxidants. <i>Ceramics International</i> , 2019 , 45, 19105-19112	5.1	8
37	Circular Double-Patterning Lithography Using a Block Copolymer Template and Atomic Layer Deposition. <i>Advanced Materials Interfaces</i> , 2018 , 5, 1800054	4.6	8
36	Real-time detection of chlorine gas using Ni/Si shell/core nanowires. <i>Nanoscale Research Letters</i> , 2015 , 10, 18	5	7
35	Interlayer-assisted atomic layer deposition of MgO as a magnetic tunneling junction insulators. <i>Journal of Alloys and Compounds</i> , 2018 , 747, 505-510	5.7	7
34	Plasma-enhanced atomic layer deposition of Co on metal surfaces. <i>Surface and Coatings Technology</i> , 2015 , 264, 60-65	4.4	7
33	Silicidation of Co/Si Core Shell Nanowires. <i>Journal of the Electrochemical Society</i> , 2012 , 159, K146-K151	3.9	6
32	Promoting lithium electrodeposition towards the bottom of 3-D copper meshes in lithium-based batteries. <i>Journal of Power Sources</i> , 2020 , 472, 228495	8.9	5
31	Copper indium selenide water splitting photoanodes with artificially designed heterophasic blended structure and their high photoelectrochemical performances. <i>Nano Energy</i> , 2018 , 46, 1-10	17.1	5

30	Water-Erasable Memory Device for Security Applications Prepared by the Atomic Layer Deposition of GeO ₂ . <i>Chemistry of Materials</i> , 2018 , 30, 830-840	9.6	5
29	Supercritical Fluid Deposition of SiO ₂ Thin Films: Growth Characteristics and Film Properties. <i>Journal of the Electrochemical Society</i> , 2011 , 159, D46-D49	3.9	5
28	In-situ synchrotron X-ray scattering study of thin film growth by atomic layer deposition. <i>Journal of Nanoscience and Nanotechnology</i> , 2011 , 11, 1577-80	1.3	5
27	Surface Energy Change of Atomic-Scale Metal Oxide Thin Films by Phase Transformation. <i>ACS Nano</i> , 2020 , 14, 676-687	16.7	5
26	Self-Formation of Superhydrophobic Surfaces through Interfacial Energy Engineering between Liquids and Particles. <i>Langmuir</i> , 2021 , 37, 5356-5363	4	5
25	Formation of Ni silicide from atomic layer deposited Ni. <i>Current Applied Physics</i> , 2016 , 16, 720-725	2.6	4
24	Reaction Mechanism of Pt Atomic Layer Deposition on Various Textile Surfaces. <i>Chemistry of Materials</i> , 2019 , 31, 8995-9002	9.6	4
23	Conduction mechanism change with transport oxide layer thickness in oxide hetero-interface diode. <i>Applied Physics Letters</i> , 2017 , 111, 053506	3.4	4
22	Ru nanodot synthesis using CO ₂ supercritical fluid deposition. <i>Journal of Physics and Chemistry of Solids</i> , 2013 , 74, 664-667	3.9	4
21	Stress dependence of growth mode change of epitaxial layered cobaltite $\text{Na}_{0.7}\text{CoO}_2$. <i>Applied Surface Science</i> , 2007 , 254, 436-440	6.7	4
20	Photocatalytic Effect of Ag/TiO ₂ Nanotubes Fabricated Using 40 nm-Scale BCP Lithography. <i>Nanoscience and Nanotechnology Letters</i> , 2017 , 9, 50-55	0.8	4
19	The Structure of BC ₃ N Tubular Nanofiber Synthesized by Using PECVD. <i>Journal of the Korean Physical Society</i> , 2007 , 51, 125	0.6	4
18	Effects of TaN Diffusion Barrier on Cu-Gate ZnO:N Thin-Film Transistors. <i>IEEE Electron Device Letters</i> , 2016 , 37, 599-602	4.4	4
17	Cobalt titanium nitride amorphous metal alloys by atomic layer deposition. <i>Journal of Alloys and Compounds</i> , 2018 , 737, 684-692	5.7	4
16	Uniform color coating of multilayered TiO ₂ /Al ₂ O ₃ films by atomic layer deposition 2017 , 14, 177-183		3
15	High quality epitaxial CoSi ₂ using plasma nitridation-mediated epitaxy: The effects of the capping layer. <i>Journal of Applied Physics</i> , 2007 , 102, 094509	2.5	3
14	Icephobic Coating through a Self-Formed Superhydrophobic Surface Using a Polymer and Microsized Particles.. <i>ACS Applied Materials & Interfaces</i> , 2022 ,	9.5	3
13	Vapor phase synthesis of TaS ₂ nanocrystals with iodine as transport agent. <i>Japanese Journal of Applied Physics</i> , 2017 , 56, 045501	1.4	2

12	Dataset for TiN Thin Films Prepared by Plasma-Enhanced Atomic Layer Deposition Using Tetrakis(dimethylamino)titanium (TDMAT) and Titanium Tetrachloride (TiCl ₄) Precursor. <i>Data in Brief</i> , 2020 , 31, 105777	1.2	2
11	Preparation of a hydrophobic cerium oxide nanoparticle coating with polymer binder via a facile solution route. <i>Ceramics International</i> , 2020 , 46, 12209-12215	5.1	2
10	Cobalt and nickel atomic layer depositions for contact applications 2009 ,		2
9	Amorphous TiO ₂ /p-Si Heterojunction Photodiode Prepared by Low-Temperature Atomic Layer Deposition. <i>Nanoscience and Nanotechnology Letters</i> , 2018 , 10, 800-804	0.8	2
8	Effect of molecular backbone structure on vapor phase coupling reaction between diiso(thio)cyanates with diamines, diols, and dithiols. <i>Progress in Organic Coatings</i> , 2020 , 140, 105509	4.8	2
7	Atomic Layer Modulation of Multicomponent Thin Films through Combination of Experimental and Theoretical Approaches. <i>Chemistry of Materials</i> , 2021 , 33, 4435-4444	9.6	2
6	Toward Enhanced Humidity Stability of Triboelectric Mechanical Sensors via Atomic Layer Deposition. <i>Nanomaterials</i> , 2021 , 11,	5.4	2
5	Evaluation of silicon tetrahalide precursors for low-temperature thermal atomic layer deposition of silicon nitride. <i>Applied Surface Science</i> , 2021 , 565, 150603	6.7	2
4	Surface Wettability of Nitrogen-Doped TiO ₂ Films Prepared by Atomic Layer Deposition Using NH ₄ OH as the Doping Source. <i>Nanoscience and Nanotechnology Letters</i> , 2018 , 10, 779-783	0.8	1
3	Interfacial reactions and mechanical properties of transient liquid-phase bonding joints in Cu/Sn/Ni(P) and Ni/Sn/(OSP)Cu structures for power modules. <i>Journal of Materials Science: Materials in Electronics</i> , 2021 , 32, 3324-3333	2.1	0
2	Growth of Atomic Layer Deposition Platinum on TiO ₂ . <i>Journal of the Korean Institute of Surface Engineering</i> , 2015 , 48, 38-42		
1	Atomic Layer Deposition: Circular Double-Patterning Lithography Using a Block Copolymer Template and Atomic Layer Deposition (Adv. Mater. Interfaces 16/2018). <i>Advanced Materials Interfaces</i> , 2018 , 5, 1870078	4.6	