Xin-Wei Wang

List of Publications by Year
in descending order

112 papers	4,863 citations	109137 35 h-index	106150 65 g-index
113 all docs	113 docs citations	113 times ranked	7563 citing authors

#	Article	IF	Citations
1	Kinetics Tuning of Li-Ion Diffusion in Layered Li(Ni_xMn_yCo_z)O₂. Journal of the American Chemical Society, 2015, 137, 8364-8367.	6.6	292
2	Kinetics of Initial Lithiation of Crystalline Silicon Electrodes of Lithium-Ion Batteries. Nano Letters, 2012, 12, 5039-5047.	4.5	206
3	Tuning Electronic Structure of Single Layer MoS₂ through Defect and Interface Engineering. ACS Nano, 2018, 12, 2569-2579.	7.3	203
4	Optimized Temperature Effect of Liâ€Ion Diffusion with Layer Distance in Li(Ni_xMn_yCo_z)O₂ Cathode Materials for High Performance Liâ€Ion Battery. Advanced Energy Materials, 2016, 6, 1501309.	10.2	182
5	Vapor-Phase Atomic Layer Deposition of Co₉S₈ and Its Application for Supercapacitors. Nano Letters, 2015, 15, 6689-6695.	4.5	180
6	Enhancing the High-Voltage Cycling Performance of LiNi_{0.5}Mn_{0.3}Co_{0.2}O₂ by Retarding Its Interfacial Reaction with an Electrolyte by Atomic-Layer-Deposited Al₂O₃. ACS Applied Materials & Interfaces, 2015, 7, 25105-25112.	4.0	158
7	Improving the Activity for Oxygen Evolution Reaction by Tailoring Oxygen Defects in Double Perovskite Oxides. Advanced Functional Materials, 2019, 29, 1901783.	7.8	152
8	Vapor-Phase Atomic Layer Deposition of Nickel Sulfide and Its Application for Efficient Oxygen-Evolution Electrocatalysis. Chemistry of Materials, 2016, 28, 1155-1164.	3.2	144
9	Atomic layer deposition for nanomaterial synthesis and functionalization in energy technology. Materials Horizons, 2017, 4, 133-154.	6.4	141
10	Defect Engineering in Single-Layer MoS₂ Using Heavy Ion Irradiation. ACS Applied Materials & Interfaces, 2018, 10, 42524-42533.	4.0	138
11	Uncovering the Effect of Lattice Strain and Oxygen Deficiency on Electrocatalytic Activity of Perovskite Cobaltite Thin Films. Advanced Science, 2019, 6, 1801898.	5.6	136
12	Electric energy generation in single track-etched nanopores. Applied Physics Letters, 2008, 93, .	1.5	111
13	Glass-Encapsulated Light Harvesters: More Efficient Dye-Sensitized Solar Cells by Deposition of Self-Aligned, Conformal, and Self-Limited Silica Layers. Journal of the American Chemical Society, 2012, 134, 9537-9540.	6.6	103
14	Atomic-layer-deposited ultrathin Co₉S₈ on carbon nanotubes: an efficient bifunctional electrocatalyst for oxygen evolution/reduction reactions and rechargeable Znâ€“air batteries. Journal of Materials Chemistry A, 2017, 5, 21353-21361.	5.2	97
15	Atomic Layer Deposition of the Metal Pyrites FeS₂, CoS₂, and NiS₂. Angewandte Chemie - International Edition, 2018, 57, 5898-5902.	7.2	93
16	Atomic layer deposition of nickel carbide for supercapacitors and electrocatalytic hydrogen evolution. Journal of Materials Chemistry A, 2018, 6, 4297-4304.	5.2	90
17	A Novel Hybridâ€Layered Organic Phototransistor Enables Efficient Intermolecular Charge Transfer and Carrier Transport for Ultrasensitive Photodetection. Advanced Materials, 2019, 31, e1900763.	11.1	89
18	A coreâ€“shell nanohollow-Î³-Fe₂O₃@graphene hybrid prepared through the Kirkendall process as a high performance anode material for lithium ion batteries. Chemical Communications, 2015, 51, 7855-7858.	2.2	76

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19	Heteroepitaxy of La2O3 and La2â€“xYxO3 on GaAs (111)A by Atomic Layer Deposition: Achieving Low Interface Trap Density. Nano Letters, 2013, 13, 594-599.	4.5	75
20	Improving the Electrocatalytic Activity and Durability of the La_{0.6}Sr_{0.4}Co_{0.2}Fe_{0.8}O_{3â^Î´} Cathode by Surface Modification. ACS Applied Materials & Interfaces, 2018, 10, 39785-39793.	4.0	71
21	Mechanism of the Defect Formation in Supported Graphene by Energetic Heavy Ion Irradiation: the Substrate Effect. Scientific Reports, 2015, 5, 9935.	1.6	66
22	How the geometric configuration and the surface charge distribution influence the ionic current rectification in nanopores. Journal Physics D: Applied Physics, 2007, 40, 7077-7084.	1.3	65
23	A wearable system based on core-shell structured peptide-Co9S8 supercapacitor and triboelectric nanogenerator. Nano Energy, 2019, 66, 104149.	8.2	62
24	Low-Temperature Atomic Layer Deposition of High Purity, Smooth, Low Resistivity Copper Films by Using Amidinate Precursor and Hydrogen Plasma. Chemistry of Materials, 2015, 27, 5988-5996.	3.2	61
25	Rational Bottom-Up Engineering of Electrocatalysts by Atomic Layer Deposition: A Case Study of Fe_xCo_{1â€“x}S_y-Based Catalysts for Electrochemical Hydrogen Evolution. ACS Energy Letters, 2017, 2, 2778-2785.	8.8	61
26	An atomically-thin graphene reverse electrodialysis system for efficient energy harvesting from salinity gradient. Nano Energy, 2019, 57, 783-790.	8.2	58
27	Atomic Layer Deposition Modified Track-Etched Conical Nanochannels for Protein Sensing. Analytical Chemistry, 2015, 87, 8227-8233.	3.2	56
28	Transporting an ionic-liquid/water mixture in a conical nanochannel: a nanofluidic memristor. Chemical Communications, 2017, 53, 6125-6127.	2.2	54
29	Magnetic Order-Induced Polarization Anomaly of Raman Scattering in 2D Magnet CrI₃. Nano Letters, 2020, 20, 729-734.	4.5	52
30	Towards printed perovskite solar cells with cuprous oxide hole transporting layers: a theoretical design. Semiconductor Science and Technology, 2015, 30, 054004.	1.0	50
31	Tuning peptide self-assembly by an in-tether chiral center. Science Advances, 2018, 4, eaar5907.	4.7	50
32	Facile, cost-effective plasma synthesis of self-supportive FeS_x on Fe foam for efficient electrochemical reduction of N₂ under ambient conditions. Journal of Materials Chemistry A, 2019, 7, 19977-19983.	5.2	50
33	Atomic Layer Deposition of Iron Sulfide and Its Application as a Catalyst in the Hydrogenation of Azobenzenes. Angewandte Chemie - International Edition, 2017, 56, 3226-3231.	7.2	42
34	Nanofluidic diode generated by pH gradient inside track-etched conical nanopore. Radiation Measurements, 2009, 44, 1119-1122.	0.7	40
35	Atomic layer deposition of Sc2O3 for passivating AlGaN/GaN high electron mobility transistor devices. Applied Physics Letters, 2012, 101, 232109.	1.5	39
36	Ultrathin and Ultrasensitive Direct Xâ€ray Detector Based on Heterojunction Phototransistors. Advanced Materials, 2021, 33, e2101717.	11.1	38

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37	Generating Sub-nanometer Pores in Single-Layer MoS₂ by Heavy-Ion Bombardment for Gas Separation: A Theoretical Perspective. ACS Applied Materials & Interfaces, 2018, 10, 28909-28917.	4.0	37
38	Raman spectroscopy evidence for dimerization and Mott collapse in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Î±</mml:mi><mml:mtext>â^'</mml:mtext><mml:msub>< under pressures. Physical Review Materials, 2019, 3, .	n/a	37
39	Nanopores in two-dimensional materials: accurate fabrication. Materials Horizons, 2021, 8, 1390-1408.	6.4	36
40	Surface Modification of Single Track-Etched Nanopores with Surfactant CTAB. Langmuir, 2009, 25, 8870-8874.	1.6	35
41	Efficient Charge Injection in Organic Fieldâ€Effect Transistors Enabled by Lowâ€Temperature Atomic Layer Deposition of Ultrathin VO_x Interlayer. Advanced Functional Materials, 2016, 26, 4456-4463.	7.8	35
42	Initial Growth and Agglomeration during Atomic Layer Deposition of Nickel Sulfide. Chemistry of Materials, 2019, 31, 445-453.	3.2	33
43	The Restructuring-Induced CoO_x Catalyst for Electrochemical Water Splitting. Jacs Au, 2021, 1, 2216-2223.	3.6	32
44	Size-tunable synthesis of monodisperse thorium dioxide nanoparticles and their performance on the adsorption of dye molecules. CrystEngComm, 2014, 16, 10469-10475.	1.3	31
45	Impact of Strain-Induced Changes in Defect Chemistry on Catalytic Activity of Nd₂NiO_{4+Î´} Electrodes. ACS Applied Materials & Interfaces, 2018, 10, 36926-36932.	4.0	31
46	III-V gate-all-around nanowire MOSFET process technology: From 3D to 4D. , 2012, , .		30
47	Epitaxial Growth of Mg_xCa_{1â€“x}O on GaN by Atomic Layer Deposition. Nano Letters, 2016, 16, 7650-7654.	4.5	30
48	Nanoscale Ni(OH)_x Films on Carbon Cloth Prepared by Atomic Layer Deposition and Electrochemical Activation for Glucose Sensing. ACS Applied Nano Materials, 2019, 2, 4427-4434.	2.4	30
49	Organosulfur Precursor for Atomic Layer Deposition of High-Quality Metal Sulfide Films. Chemistry of Materials, 2020, 32, 8885-8894.	3.2	29
50	Synthesis of vanadium dioxide thin films on conducting oxides and metalâ€“insulator transition characteristics. Journal of Crystal Growth, 2012, 338, 96-102.	0.7	28
51	Facetâ€Selective Deposition of Ultrathin Al₂O₃ on Copper Nanocrystals for Highly Stable CO₂ Electroreduction to Ethylene. Angewandte Chemie - International Edition, 2021, 60, 24838-24843.	7.2	28
52	Rectification and tunneling effects enabled by Al2O3 atomic layer deposited on back contact of CdTe solar cells. Applied Physics Letters, 2015, 107, .	1.5	27
53	Interface Energy Alignment of Atomic-Layer-Deposited VO_x on Pentacene: an in Situ Photoelectron Spectroscopy Investigation. ACS Applied Materials & Interfaces, 2017, 9, 1885-1890.	4.0	27
54	Atomic Layer Deposition of Nickel Carbide from a Nickel Amidinate Precursor and Hydrogen Plasma. ACS Applied Materials & Interfaces, 2018, 10, 8384-8390.	4.0	27

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55	Atomic layer deposition of vanadium oxide thin films from tetrakis(dimethylamino)vanadium precursor. Journal of Materials Research, 2017, 32, 37-44.	1.2	25
56	Surface passivation of organometal halide perovskites by atomic layer deposition: an investigation of the mechanism of efficient inverted planar solar cells. Nanoscale Advances, 2021, 3, 2305-2315.	2.2	25
57	Surface Chemistry during Atomic-Layer Deposition of Nickel Sulfide from Nickel Amidinate and H2S. Journal of Physical Chemistry C, 2018, 122, 21514-21520.	1.5	24
58	Atomic Layer Deposition of FeSe₂, CoSe₂, and NiSe₂. Chemistry of Materials, 2021, 33, 2478-2487.	3.2	24
59	Effects of forming gas anneal on ultrathin InGaAs nanowire metal-oxide-semiconductor field-effect transistors. Applied Physics Letters, 2013, 102, 093505.	1.5	23
60	Atomic Layer Deposition of Iron, Cobalt, and Nickel Chalcogenides: Progress and Outlook. Chemistry of Materials, 2021, 33, 6251-6268.	3.2	23
61	20–80nm Channel length InGaAs gate-all-around nanowire MOSFETs with EOT=1.2nm and lowest SS=63mV/dec. , 2012, , .		22
62	Deposition of silicon oxide coatings by atmospheric pressure plasma jet for oxygen diffusion barrier applications. Thin Solid Films, 2016, 615, 63-68.	0.8	22
63	Atomic-layer-deposited ultra-thin VO_x film as a hole transport layer for perovskite solar cells. Semiconductor Science and Technology, 2018, 33, 115016.	1.0	22
64	Templateâ€Free Synthesis and Mechanistic Study of Porous Threeâ€Dimensional Hierarchical Uraniumâ€Containing and Uranium Oxide Microspheres. Chemistry - A European Journal, 2014, 20, 12655-12662.	1.7	20
65	Performance Enhancement and Bending Restoration for Flexible Amorphous Indium Gallium Zinc Oxide Thin-Film Transistors by Low-Temperature Supercritical Dehydration Treatment. ACS Applied Materials & Interfaces, 2021, 13, 8584-8594.	4.0	20
66	Applications of Ion Beam Irradiation in Multifunctional Oxide Thin Films: A Review. ACS Applied Electronic Materials, 2021, 3, 1031-1042.	2.0	20
67	Self-Assembly of Constrained Cyclic Peptides Controlled by Ring Size. CCS Chemistry, 2020, 2, 42-51.	4.6	20
68	High-Quality Epitaxy of Ruthenium Dioxide, RuO2, on Rutile Titanium Dioxide, TiO2, by Pulsed Chemical Vapor Deposition. Crystal Growth and Design, 2013, 13, 1316-1321.	1.4	19
69	Synthesis of Thinâ€Film Metal Pyrites by an Atomic Layer Deposition Approach. Chemistry - A European Journal, 2018, 24, 18568-18574.	1.7	19
70	A colloidal ZnTe quantum dot-based photocathode with a metalâ€“insulatorâ€“semiconductor structure towards solar-driven CO₂ reduction to tunable syngas. Journal of Materials Chemistry A, 2021, 9, 3589-3596.	5.2	19
71	Surface Thermolytic Behavior of Nickel Amidinate and Its Implication on the Atomic Layer Deposition of Nickel Compounds. Chemistry of Materials, 2019, 31, 5172-5180.	3.2	17
72	Current Gain Degradation Model of Displacement Damage for Drift BJTs. IEEE Transactions on Nuclear Science, 2019, 66, 716-723.	1.2	16

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73	Atomic Layer Deposition of Cobalt Carbide Thin Films from Cobalt Amidinate and Hydrogen Plasma. ACS Applied Electronic Materials, 2019, 1, 444-453.	2.0	16
74	Fabrication of nanofluidic diodes with polymer nanopores modified by atomic layer deposition. Biomicrofluidics, 2014, 8, 052111.	1.2	15
75	Atomic Layer Deposition of Iron Sulfide and Its Application as a Catalyst in the Hydrogenation of Azobenzenes. Angewandte Chemie, 2017, 129, 3274-3279.	1.6	15
76	Inorganic Surface Coating with Fast Wettingâ€“Dewetting Transitions for Liquid Manipulations. ACS Applied Materials & Interfaces, 2018, 10, 19182-19188.	4.0	15
77	NiS_x@MoS₂ heterostructure prepared by atomic layer deposition as high-performance hydrogen evolution reaction electrocatalysts in alkaline media. Journal of Materials Research, 2020, 35, 822-830.	1.2	15
78	Variability Improvement by Interface Passivation and EOT Scaling of InGaAs Nanowire MOSFETs. IEEE Electron Device Letters, 2013, 34, 608-610.	2.2	14
79	GaAs Enhancement-Mode NMOSFETs Enabled by Atomic Layer Epitaxial $hbox{La}_{1.8}hbox{Y}_{0.2}hbox{O}_{3}$ as Dielectric. IEEE Electron Device Letters, 2013, 34, 487-489.	2.2	14
80	Modeling of Î¸â†’Î± alumina lateral phase transformation with applications to oxidation kinetics of NiAl-based alloys. Materials and Design, 2016, 112, 519-529.	3.3	14
81	High-Performance Self-Aligned Top-Gate Amorphous InGaZnO TFTs With 4 nm-Thick Atomic-Layer-Deposited AlO_x Insulator. IEEE Electron Device Letters, 2022, 43, 729-732.	2.2	14
82	Smooth, Low-Resistance, Pinhole-Free, Conformal Ruthenium Films by Pulsed Chemical Vapor Deposition. ECS Journal of Solid State Science and Technology, 2013, 2, N41-N44.	0.9	13
83	Magnetic Raman continuum in single-crystalline <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow><mml:mi mathvariant="normal">H</mml:mi></mml:mrow><mml:mn>3</mml:mn></mml:msub><mml:msub><mml:mrow><mml:mi>Li</mml:mi><mml:mi mathvariant="normal">O</mml:mi></mml:mrow><mml:mn>6</mml:mn></mml:msub></mml:math>. Physical Review B, 2020, 101, .	1.1	13
84	Fabrication of nickel and nickel carbide thin films by pulsed chemical vapor deposition. MRS Communications, 2018, 8, 88-94.	0.8	12
85	X-ray Sensitive hybrid organic photodetectors with embedded CsPbBr3 perovskite quantum dots. Organic Electronics, 2021, 98, 106306.	1.4	12
86	Hysteresis-Free, High-Performance Polymer-Dielectric Organic Field-Effect Transistors Enabled by Supercritical Fluid. Research, 2020, 2020, 6587102.	2.8	12
87	Plasma Modified Polypropylene Membranes as the Lithium-Ion Battery Separators. Plasma Science and Technology, 2016, 18, 424-429.	0.7	11
88	A capacitive-pulse model for nanoparticle sensing by single conical nanochannels. Nanoscale, 2016, 8, 1565-1571.	2.8	11
89	Probing the continuum scattering and magnetic collapse in single-crystalline <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Î±</mml:mi><mml:mtext>â^'</mml:mtext><mml:mi mathvariant="normal">L</mml:mi><mml:msub><mml:mi mathvariant="normal">i</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mi>Ir</mml:mi><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math> by Raman spectroscopy. Physical Review B, 2020, 101, .	1.1	11
90	Atomic layer deposited nickel sulfide for bifunctional oxygen evolution/reduction electrocatalysis and zincâ€“air batteries. Nanotechnology, 2021, 32, 275402.	1.3	11

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91	Atomic Layer Deposition of the Metal Pyrites FeS₂, CoS₂, and NiS₂. Angewandte Chemie, 2018, 130, 6000-6004.	1.6	10
92	Magnetocaloric properties and universal behavior in electron-doped manganite Ca0.88Dy0.12MnO3. Journal of Alloys and Compounds, 2016, 667, 1-5.	2.8	9
93	Intrinsically flexible all-carbon-nanotube electronics enabled by a hybrid organicâ€“inorganic gate dielectric. Npj Flexible Electronics, 2022, 6, .	5.1	9
94	Band Alignment for Rectification and Tunneling Effects in Al₂O₃ Atomic-Layer-Deposited on Back Contact for CdTe Solar Cell. ACS Applied Materials & Interfaces, 2016, 8, 28143-28148.	4.0	8
95	Ultralowâ€Power Synaptic Transistors Based on Ta₂O₅/Al₂O₃ Bilayer Dielectric for Algebraic Arithmetic. Advanced Electronic Materials, 2022, 8, .	2.6	8
96	Metal Exchange and Diffusion during Atomic Layer Deposition of Cobalt and Nickel Sulfides. Chemistry of Materials, 2021, 33, 9403-9412.	3.2	8
97	Improved electrochemical performance of LiNi0.5Mn0.3Co0.2O₂ electrodes coated by atomic-layer-deposited Ta₂O₅. Functional Materials Letters, 2019, 12, 1850103.	0.7	7
98	Origin of nonequilibrium 1/f noise in solid-state nanopores. Nanoscale, 2020, 12, 8975-8981.	2.8	7
99	Spectroscopic investigation of defects mediated oxidization of single-layer MoS2. Science China Technological Sciences, 2021, 64, 611-619.	2.0	6
100	Facetâ€selective deposition of ultrathin Al2O3 on copper nanocrystals for highly stable CO2 electroreduction to ethylene. Angewandte Chemie, 0, , .	1.6	6
101	Onset voltage shift in the organic thin-film transistor with an atomic-layer-deposited charge-injection interlayer. Organic Electronics, 2018, 62, 248-252.	1.4	5
102	A semi-classical model for the charge exchange and energy loss of slow highly charged ions in ultrathin materials. Matter and Radiation at Extremes, 2019, 4, 054401.	1.5	5
103	Radiation-induced charge trapping in Si-MOS capacitors with HfO2/SiO2 gate dielectrics. Nuclear Instruments & Methods in Physics Research B, 2020, 479, 150-156.	0.6	4
104	(Invited) Atomic Layer Deposition of Cobalt, Nickel, and Iron Sulfides: Synthesis and Applications. ECS Transactions, 2017, 80, 77-85.	0.3	3
105	Performance enhancement of gate-all-around InGaAs nanowire MOSFETs by raised source and drain structure. , 2013, , .		2
106	Selfâ€modulated photoluminescence of CrBr ₃ flake. Micro and Nano Letters, 2020, 15, 788-792.	0.6	2
107	Synergistic effects in MOS capacitors with an Au/HfO₂â€“SiO₂/Si structure irradiated with neutron and gamma ray. Journal Physics D: Applied Physics, 2022, 55, 115104.	1.3	1
108	Nanofluidic diode generated by pH gradient inside track-etched conical nanopore. , 2010, , .		0

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109	III–V 4D transistors. , 2012, , .		0
110	Frontispiece: Synthesis of Thinâ€Film Metal Pyrites by an Atomic Layer Deposition Approach. Chemistry - A European Journal, 2018, 24, .	1.7	0
111	(Invited) Atomic Layer Deposition of Cobalt, Nickel, and Iron Sulfides: Synthesis and Applications. ECS Meeting Abstracts, 2017, , .	0.0	0
112	(Invited) Surface Thermolysis of ALD Precursors and Its Implications for Deposition. ECS Meeting Abstracts, 2020, MA2020-02, 1667-1667.	0.0	0