Zhi-Guo Wang

List of Publications by Year
in descending order

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117	3,989	101384	133063
papers	citations	36 h-index	59 g-index

119	119	119	6426
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Design of active nickel single-atom decorated MoS2 as a pH-universal catalyst for hydrogen evolution reaction. Nano Energy, 2018, 53, 458-467.	8.2	222
2	Room-Temperature High-Performance H₂S Sensor Based on Porous CuO Nanosheets Prepared by Hydrothermal Method. ACS Applied Materials & Interfaces, 2016, 8, 20962-20968.	4.0	218
3	Two-Dimensional van der Waals Materials with Aligned In-Plane Polarization and Large Piezoelectric Effect for Self-Powered Piezoelectric Sensors. Nano Letters, 2019, 19, 5410-5416.	4.5	132
4	Optical Properties and Photocatalytic Applications of Two-Dimensional Janus Group-III Monochalcogenides. Journal of Physical Chemistry C, 2019, 123, 11388-11396.	1.5	132
5	Lead-Free Cs₄CuSb₂Cl₁₂ Layered Double Perovskite Nanocrystals. Journal of the American Chemical Society, 2020, 142, 11927-11936.	6.6	131
6	Lowering Charge Transfer Barrier of LiMn₂O₄ via Nickel Surface Doping To Enhance Li⁺ Intercalation Kinetics at Subzero Temperatures. Journal of the American Chemical Society, 2019, 141, 14038-14042.	6.6	125
7	Robust Piezo-Phototronic Effect in Multilayer Î³-InSe for High-Performance Self-Powered Flexible Photodetectors. ACS Nano, 2019, 13, 7291-7299.	7.3	118
8	O2 plasma and cation tuned nickel phosphide nanosheets for highly efficient overall water splitting. Nano Energy, 2018, 54, 82-90.	8.2	116
9	Atomic-Resolution Visualization of Distinctive Chemical Mixing Behavior of Ni, Co, and Mn with Li in Layered Lithium Transition-Metal Oxide Cathode Materials. Chemistry of Materials, 2015, 27, 5393-5401.	3.2	108
10	Black reduced porous SnO2 nanosheets for CO2 electroreduction with high formate selectivity and low overpotential. Applied Catalysis B: Environmental, 2020, 260, 118134.	10.8	107
11	Ni and Co Segregations on Selective Surface Facets and Rational Design of Layered Lithium Transitionâ€Metal Oxide Cathodes. Advanced Energy Materials, 2016, 6, 1502455.	10.2	100
12	Single-layered V2O5 a promising cathode material for rechargeable Li and Mg ion batteries: an ab initio study. Physical Chemistry Chemical Physics, 2013, 15, 8705.	1.3	84
13	Defect-Mediated Lithium Adsorption and Diffusion on Monolayer Molybdenum Disulfide. Scientific Reports, 2015, 5, 18712.	1.6	83
14	Controlled growth of vertical 3D MoS_{2(1â^'x)}Se_{2x} nanosheets for an efficient and stable hydrogen evolution reaction. Journal of Materials Chemistry A, 2016, 4, 18060-18066.	5.2	76
15	Efficiently Synergistic Hydrogen Evolution Realized by Trace Amount of Pt-Decorated Defect-Rich SnS₂ Nanosheets. ACS Applied Materials & Interfaces, 2017, 9, 37750-37759.	4.0	76
16	Mechanical and electronic properties of Janus monolayer transition metal dichalcogenides. Journal of Physics Condensed Matter, 2018, 30, 215301.	0.7	74
17	Anomalous Li Storage Capability in Atomically Thin Two-Dimensional Sheets of Nonlayered MoO₂. Nano Letters, 2018, 18, 1506-1515.	4.5	74
18	Origin of Structural Transformation in Mono- and Bi-Layered Molybdenum Disulfide. Scientific Reports, 2016, 6, 26666.	1.6	71

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19	Layer-Dependent Chemically Induced Phase Transition of Two-Dimensional MoS₂. Nano Letters, 2018, 18, 3435-3440.	4.5	69
20	Atomistic simulations of the mechanical properties of silicon carbide nanowires. Physical Review B, 2008, 77, .	1.1	67
21	Modification of Defect Structures in Graphene by Electron Irradiation: Ab Initio Molecular Dynamics Simulations. Journal of Physical Chemistry C, 2012, 116, 16070-16079.	1.5	61
22	Comparison of Tetragonal and Cubic Tin as Anode for Mg Ion Batteries. ACS Applied Materials & Interfaces, 2014, 6, 6786-6789.	4.0	57
23	Modelling and simulation of electron-rich effect on Li diffusion in group IVA elements (Si, Ge and Sn) for Li ion batteries. Journal of Materials Chemistry A, 2014, 2, 13976-13982.	5.2	55
24	Electronic Modulation of Nickel Disulfide toward Efficient Water Electrolysis. Small, 2020, 16, e1905885.	5.2	52
25	Electron-Rich Driven Electrochemical Solid-State Amorphization in Liâ€“Si Alloys. Nano Letters, 2013, 13, 4511-4516.	4.5	51
26	Monolayer black phosphorus as potential anode materials for Mg-ion batteries. Journal of Materials Science, 2016, 51, 7355-7360.	1.7	51
27	Large Intercalation Pseudocapacitance in 2D VO₂ (B): Breaking through the Kinetic Barrier. Advanced Materials, 2018, 30, e1803594.	11.1	50
28	Triggering Catalytic Active Sites for Hydrogen Evolution Reaction by Intrinsic Defects in Janus Monolayer MoSSe. Journal of Physical Chemistry C, 2019, 123, 12261-12267.	1.5	49
29	Atomistic simulations of the size, orientation, and temperature dependence of tensile behavior in GaN nanowires. Physical Review B, 2007, 76, .	1.1	45
30	First principles prediction of nitrogen-doped carbon nanotubes as a high-performance cathode for Liâ€“S batteries. RSC Advances, 2013, 3, 16775.	1.7	44
31	The effects of monovalent metal cations on the crystal and electronic structures of Cs2MBiCl6 (M =) Tj ETQq1 1 0.784314 rgBT /Over	1.2	43
32	Two-dimensional hetero-nanostructured electrocatalyst of Ni/NiFe-layered double oxide for highly efficient hydrogen evolution reaction in alkaline medium. Chemical Engineering Journal, 2021, 426, 131827.	6.6	42
33	Electronic and optical properties of two-dimensional covalent organic frameworks. Journal of Materials Chemistry, 2012, 22, 16964.	6.7	41
34	Novel Electronic and Magnetic Properties of Graphene Nanoflakes in a Boron Nitride Layer. Journal of Physical Chemistry C, 2012, 116, 7581-7586.	1.5	38
35	Sodium adsorption and diffusion on monolayer black phosphorus with intrinsic defects. Applied Surface Science, 2018, 427, 189-197.	3.1	38
36	2H â†' 1Tâ€² phase transformation in Janus monolayer MoSSe and MoSTe: an efficient hole injection contact for 2H-MoS₂. Journal of Materials Chemistry C, 2018, 6, 13000-13005.	2.7	38

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37	Highly Efficient and Stable Hydrogen Production in All pH Range by Two-Dimensional Structured Metal-Doped Tungsten Semicarbides. Research, 2019, 2019, 4029516.	2.8	35
38	Adsorption and diffusion of lithium on heteroatom-doped monolayer molybdenum disulfide. Applied Surface Science, 2018, 455, 911-918.	3.1	34
39	Ultra-sensitive UV and H2S dual functional sensors based on porous In2O3 nanoparticles operated at room temperature. Journal of Alloys and Compounds, 2019, 770, 721-731.	2.8	34
40	Structural, electronic and mechanical properties of two-dimensional Janus transition metal carbides and nitrides. Physica E: Low-Dimensional Systems and Nanostructures, 2018, 103, 307-313.	1.3	32
41	A two-dimensional MoS₂/C₃N broken-gap heterostructure, a first principles study. RSC Advances, 2019, 9, 19837-19843.	1.7	32
42	Defects in gallium nitride nanowires: First principles calculations. Journal of Applied Physics, 2010, 108, 044305.	1.1	29
43	Review on the temperature memory effect in shape memory alloys. International Journal of Smart and Nano Materials, 2011, 2, 101-119.	2.0	29
44	Tuning the band structures of single walled silicon carbide nanotubes with uniaxial strain: A first principles study. Applied Physics Letters, 2008, 92, 183116.	1.5	28
45	Electric field enhanced adsorption and diffusion of adatoms in MoS2 monolayer. Materials Chemistry and Physics, 2016, 183, 392-397.	2.0	28
46	Structure and electronic properties of transition metal dichalcogenide MX2 (MÂ=ÂMo, W, Nb; XÂ=ÂS, Se) monolayers with grain boundaries. Materials Chemistry and Physics, 2014, 147, 1068-1073.	2.0	26
47	Electron Transfer Governed Crystal Transformation of Tungsten Trioxide upon Li Ions Intercalation. ACS Applied Materials & Interfaces, 2016, 8, 24567-24572.	4.0	26
48	Catalytic activity for the hydrogen evolution reaction of edges in Janus monolayer MoXY (X/Y = S, Se,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	1.3	26
49	Cu- and Fe-Codoped Ni Porous Networks as an Active Electrocatalyst for Hydrogen Evolution in Alkaline Medium. ACS Applied Materials & Interfaces, 2020, 12, 2380-2389.	4.0	26
50	Composition Dependence of Lithium Diffusion in Lithium Silicide: A Density Functional Theory Study. ChemElectroChem, 2015, 2, 1292-1297.	1.7	25
51	Density functional theory study of diffusion of lithium in Liâ€“Sn alloys. Journal of Materials Science, 2016, 51, 3271-3276.	1.7	25
52	Transition metal atom (Ti, V, Mn, Fe, and Co) anchored silicene for hydrogen evolution reaction. RSC Advances, 2019, 9, 26321-26326.	1.7	25
53	Rhenium doping induced structural transformation in mono-layered MoS₂ with improved catalytic activity for hydrogen evolution reaction. Journal Physics D: Applied Physics, 2017, 50, 405303.	1.3	23
54	Grain Boundaries Trigger Basal Plane Catalytic Activity for the Hydrogen Evolution Reaction in Monolayer MoS2. Electrocatalysis, 2018, 9, 744-751.	1.5	22

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55	Improved Thermoelectric Performance of Monolayer HfS₂ by Strain Engineering. ACS Omega, 2021, 6, 29820-29829.	1.6	22
56	Controlling electronic structures by irradiation in single-walled SiC nanotubes: a first-principles molecular dynamics study. Nanotechnology, 2009, 20, 075708.	1.3	21
57	Ab initio study of adsorption and diffusion of lithium on transition metal dichalcogenide monolayers. Beilstein Journal of Nanotechnology, 2017, 8, 2711-2718.	1.5	20
58	Tuning the n-type contact of graphene on Janus MoSSe monolayer by strain and electric field. Physica E: Low-Dimensional Systems and Nanostructures, 2019, 110, 148-152.	1.3	20
59	High Thermoelectric Performance of Sb₂Si₂Te₆ Monolayers. Journal of Physical Chemistry C, 2021, 125, 16413-16419.	1.5	20
60	Modeling and Simulation of Piezoelectrically Driven Self-Charging Lithium Ion Batteries. ACS Applied Materials & Interfaces, 2017, 9, 15893-15897.	4.0	19
61	Effect of oxygen doping on the hydrogen evolution reaction in MoS2 monolayer. Journal of the Taiwan Institute of Chemical Engineers, 2018, 82, 163-168.	2.7	19
62	First principles study of the electronic properties of twinned SiC nanowires. Journal of Nanoparticle Research, 2011, 13, 185-191.	0.8	18
63	Oxygen Deficiency and Defect Chemistry in Delithiated Spinel LiNi_{0.5}Mn_{1.5}O₄ Cathodes for Liâ€ion Batteries. ChemElectroChem, 2015, 2, 1182-1186.	1.7	18
64	Thermal conductivity of GaN nanotubes simulated by nonequilibrium molecular dynamics. Physical Review B, 2007, 75, .	1.1	17
65	Facet-dependent magnesiation behavior of Î±-Sn as an anode for magnesium ion batteries. RSC Advances, 2017, 7, 44547-44551.	1.7	17
66	Density Functional Theory Study on the Hydrogen Evolution Reaction in the S-rich SnS2 Nanosheets. Electrocatalysis, 2020, 11, 604-611.	1.5	17
67	Strain Engineering and Electric Field Tunable Electronic Properties of Janus MoSSe/WX₂ (Xâ€‰=â€‰S, Se) van der Waals Heterostructures. Physica Status Solidi (B): Basic Research, 2019, 256, 1900261.	0.7	16
68	Intrinsic defects in yttrium iron garnet: A first-principles study. Journal of Applied Physics, 2020, 128, .	1.1	16
69	Stoneâ€“Wales defects created by low energy recoils in single-walled silicon carbide nanotubes. Journal of Applied Physics, 2009, 106, .	1.1	15
70	Structure and electronic properties of boron nitride sheet with grain boundaries. Journal of Nanoparticle Research, 2012, 14, 1.	0.8	14
71	Improving the catalytic activity for hydrogen evolution of monolayered SnSe_{2(1â^'}_x₎S₂_x by mechanical strain. Beilstein Journal of Nanotechnology, 2018, 9, 1820-1827.	1.5	14
72	Nanostructured Ni₂SeS on Porous-Carbon Skeletons as Highly Efficient Electrocatalyst for Hydrogen Evolution in Acidic Medium. Inorganic Chemistry, 2020, 59, 6018-6025.	1.9	13

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73	Direct formation of SiO2/SnO2 composite nanoparticles with high surface area and high thermal stability by solâ€“gel-hydrothermal process. Journal of Sol-Gel Science and Technology, 2009, 49, 196-201.	1.1	12
74	Lithium and sodium diffusion in solid electrolyte materials of AM₂(PO₄)₃(A = Li, Na,) Tj ETQq1 1 0.0 0 rgBT1/2Overlock		
75	Mechanical bending induced catalytic activity enhancement of monolayer 1ÂTâ€™-MoS2 for hydrogen evolution reaction. Journal of Nanoparticle Research, 2017, 19, 1.	0.8	12
76	Mechanical behavior of twinned SiC nanowires under combined tension-torsion and compression-torsion strain. Journal of Applied Physics, 2010, 108, .	1.1	10
77	Plasma-Treated Ultrathin Ternary FePSe₃ Nanosheets as a Bifunctional Electrocatalyst for Efficient Zincâ€“Air Batteries. ACS Applied Materials & Interfaces, 2020, 12, 29393-29403.	4.0	10
78	Thermoelectric performance of ZrNX (X = Cl, Br and I) monolayers. Physical Chemistry Chemical Physics, 2021, 24, 560-567.	1.3	10
79	Enhancement of adsorption and diffusion of lithium in single-walled carbon nanotubes by external electric field. Journal of Nanoparticle Research, 2016, 18, 1.	0.8	9
80	Composites of Piezoelectric Materials and Silicon as Anodes for Lithiumâ€ion Batteries. ChemElectroChem, 2017, 4, 1523-1527.	1.7	9
81	Trapping polysulfide on two-dimensional molybdenum disulfide for Liâ€“S batteries through phase selection with optimized binding. Beilstein Journal of Nanotechnology, 2019, 10, 774-780.	1.5	9
82	Dual cylindrical metallic grating-cladding polymer hollow waveguide for terahertz transmission with low loss. Applied Physics Letters, 2010, 97, 133502.	1.5	8
83	Tuning the electronic properties of single-walled SiC nanotubes by external electric field. Physica E: Low-Dimensional Systems and Nanostructures, 2016, 81, 192-195.	1.3	8
84	Density functional theory analysis of surface structures of spinel LiNi0.5Mn1.5O4 cathode materials. Journal of Materials Science, 2017, 52, 605-612.	1.7	8
85	Eliminating Trapâ€States and Functionalizing Vacancies in 2D Semiconductors by Electrochemistry. Small, 2019, 15, e1901899.	5.2	8
86	Atomistic study of the melting behavior of single crystalline wurtzite gallium nitride nanowires. Journal of Materials Research, 2007, 22, 742-747.	1.2	7
87	Surface treated nickel phosphide nanosheet with oxygen as highly efficient bifunctional electrocatalysts for overall water splitting. Applied Surface Science, 2019, 496, 143741.	3.1	7
88	Density functional theory study of aluminium and chromium doped Yttrium ion garnet. Materials Research Express, 2019, 6, 036105.	0.8	7
89	Nanomechanical behavior of single crystalline SiC nanotubes revealed by molecular dynamics simulations. Journal of Applied Physics, 2008, 104, 093506.	1.1	6
90	Antisite defects in La0.7Sr0.3MnO3 and La0.7Sr0.3FeO3. Applied Physics Letters, 2013, 102, 151911.	1.5	6

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91	Outâ€ofâ€Cell Oxygen Diffusivity Evaluation in Lithiumâ€“Air Batteries. ChemElectroChem, 2014, 1, 2052-2057.	1.7	6
92	Triggering basal plane active sites of monolayer MoS2 for the hydrogen evolution reaction by phosphorus doping. Journal of Nanoparticle Research, 2018, 20, 1.	0.8	6
93	Mechanical Properties of Two-Dimensional Materials (Graphene, Silicene and MoS2 Monolayer) Upon Lithiation. Journal of Electronic Materials, 2020, 49, 5713-5720.	1.0	6
94	Charge Separation in Wurtzite/Zincâ€Blende Heterojunction GaN Nanowires. ChemPhysChem, 2010, 11, 3329-3332.	1.0	5
95	An ab initio molecular dynamics study on the threshold displacement energies in yttrium aluminum garnet. Journal of Applied Physics, 2019, 126, 055701.	1.1	4
96	Mechanical elasticity and piezoelectricity in monolayer transition-metal dichalcogenide alloys. Journal of Physics and Chemistry of Solids, 2019, 135, 109081.	1.9	4
97	Transition Metal Atoms Anchored on CuPS3 Monolayer for Enhancing Catalytic Performance of Hydrogen Evolution Reactions. Electrocatalysis, 2022, 13, 494-501.	1.5	4
98	Orientation and temperature dependence of the tensile behavior of GaN nanowires: an atomistic study. Journal of Materials Science: Materials in Electronics, 2008, 19, 863-867.	1.1	3
99	TENSILE BEHAVIOR OF AMORPHOUS LAYER COATED SILICON CARBIDE NANOWIRES: AN ATOMIC SIMULATION. Modern Physics Letters B, 2011, 25, 325-332.	1.0	3
100	Atomic scale study of surface orientations and energies of Ti2O3 crystals. Applied Physics Letters, 2017, 111, .	1.5	3
101	High intrinsic catalytic activity of boron nanotubes for hydrogen evolution reaction: an ab initio study. Materials Research Express, 2019, 6, 025036.	0.8	3
102	The dependence of interfacial properties on the layer number in 1Tâ€²/2H-MoS2 van der Waals heterostructures. Physics Letters, Section A: General, Atomic and Solid State Physics, 2020, 384, 126747.	0.9	3
103	Gradient-supervised person re-identification based on dense feature pyramid network. Complex & Intelligent Systems, 2022, 8, 5329-5342.	4.0	3
104	Dual-donor codoping approach to realize low-resistance n-type ZnS semiconductor. Applied Physics Letters, 2011, 99, .	1.5	2
105	Cathode Materials: Ni and Co Segregations on Selective Surface Facets and Rational Design of Layered Lithium Transition-Metal Oxide Cathodes (Adv. Energy Mater. 9/2016). Advanced Energy Materials, 2016, 6, .	10.2	2
106	Defects in Li-rich manganese-based layered oxide: A first-principles study. Modern Physics Letters B, 2019, 33, 1950098.	1.0	2
107	Elastic softening of group IVA (Si, Ge and Sn) materials by electron and lithium doping. Modern Physics Letters B, 2020, 34, 2050140.	1.0	2
108	Pedestrian reâ€identification based on attribute mining and reasoning. IET Image Processing, 2021, 15, 2399-2411.	1.4	2

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109	First principles study of p-type doping in SiC nanowires: role of quantum effect. Journal of Nanoparticle Research, 2011, 13, 2887-2892.	0.8	1
110	Tensile behavior of single crystalline GaN nanotube bundles: An atomistic-level study. International Journal of Modern Physics B, 2014, 28, 1450135.	1.0	1
111	Effect of Fe content on Cu₂Fe_xZn_{1â^'x}SnS₄ single crystals fabricated by flux growth method. Journal Physics D: Applied Physics, 2018, 51, 295107.	1.3	1
112	SAN-GAL: Spatial Attention Network Guided by Attribute Label for Person Re-identification. Wireless Communications and Mobile Computing, 2021, 2021, 1-8.	0.8	1
113	Firstâ€Principles Molecular Dynamics Study of the Threshold Displacement Energy in LiFe₅O₈. Crystal Research and Technology, 2021, 56, 2100076.	0.6	1
114	Energy-efficient speed tuning for real-time applications. Cluster Computing, 0, , 1.	3.5	1
115	Electronic properties of MoS2/Be2C van der Waals heterostructure: Effect of Bi-axil strain and vertical electric field. Physica E: Low-Dimensional Systems and Nanostructures, 2022, 139, 115172.	1.3	1
116	Strain and electric field tuning the electronic properties of two-dimensional MoS2/ScCl3 van der Waals heterostructure. Journal of Materials Science: Materials in Electronics, 2022, 33, 10461-10470.	1.1	1
117	Threshold displacement energy of lattice atoms in yttrium ion garnet, an ab initio molecular dynamics study. Chemical Physics Letters, 2021, 771, 138518.	1.2	0