

Zhi-Guo Wang

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117
papers

2,692
citations

31
h-index

47
g-index

119
ext. papers

3,345
ext. citations

5.5
avg, IF

5.7
L-index

#	Paper	IF	Citations
117	Room-Temperature High-Performance H ₂ S Sensor Based on Porous CuO Nanosheets Prepared by Hydrothermal Method. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 20962-8	9.5	166
116	Design of active nickel single-atom decorated MoS ₂ as a pH-universal catalyst for hydrogen evolution reaction. <i>Nano Energy</i> , 2018 , 53, 458-467	17.1	147
115	Atomic-Resolution Visualization of Distinctive Chemical Mixing Behavior of Ni, Co, and Mn with Li in Layered Lithium Transition-Metal Oxide Cathode Materials. <i>Chemistry of Materials</i> , 2015 , 27, 5393-5401	9.6	87
114	Lowering Charge Transfer Barrier of LiMnO via Nickel Surface Doping To Enhance Li Intercalation Kinetics at Subzero Temperatures. <i>Journal of the American Chemical Society</i> , 2019 , 141, 14038-14042	16.4	77
113	Two-Dimensional van der Waals Materials with Aligned In-Plane Polarization and Large Piezoelectric Effect for Self-Powered Piezoelectric Sensors. <i>Nano Letters</i> , 2019 , 19, 5410-5416	11.5	74
112	Single-layered V ₂ O ₅ a promising cathode material for rechargeable Li and Mg ion batteries: an ab initio study. <i>Physical Chemistry Chemical Physics</i> , 2013 , 15, 8705-9	3.6	73
111	O ₂ plasma and cation tuned nickel phosphide nanosheets for highly efficient overall water splitting. <i>Nano Energy</i> , 2018 , 54, 82-90	17.1	73
110	Ni and Co Segregations on Selective Surface Facets and Rational Design of Layered Lithium Transition-Metal Oxide Cathodes. <i>Advanced Energy Materials</i> , 2016 , 6, 1502455	21.8	72
109	Optical Properties and Photocatalytic Applications of Two-Dimensional Janus Group-III Monochalcogenides. <i>Journal of Physical Chemistry C</i> , 2019 , 123, 11388-11396	3.8	68
108	Black reduced porous SnO ₂ nanosheets for CO ₂ electroreduction with high formate selectivity and low overpotential. <i>Applied Catalysis B: Environmental</i> , 2020 , 260, 118134	21.8	67
107	Lead-Free CsCuSbCl Layered Double Perovskite Nanocrystals. <i>Journal of the American Chemical Society</i> , 2020 , 142, 11927-11936	16.4	66
106	Robust Piezo-Phototronic Effect in Multilayer InSe for High-Performance Self-Powered Flexible Photodetectors. <i>ACS Nano</i> , 2019 , 13, 7291-7299	16.7	65
105	Defect-Mediated Lithium Adsorption and Diffusion on Monolayer Molybdenum Disulfide. <i>Scientific Reports</i> , 2015 , 5, 18712	4.9	65
104	Controlled growth of vertical 3D MoS ₂ (1-x)Se _{2x} nanosheets for an efficient and stable hydrogen evolution reaction. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 18060-18066	13	61
103	Origin of Structural Transformation in Mono- and Bi-Layered Molybdenum Disulfide. <i>Scientific Reports</i> , 2016 , 6, 26666	4.9	55
102	Modification of Defect Structures in Graphene by Electron Irradiation: Ab Initio Molecular Dynamics Simulations. <i>Journal of Physical Chemistry C</i> , 2012 , 116, 16070-16079	3.8	55
101	Efficiently Synergistic Hydrogen Evolution Realized by Trace Amount of Pt-Decorated Defect-Rich SnS Nanosheets. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 37750-37759	9.5	54

100	Atomistic simulations of the mechanical properties of silicon carbide nanowires. <i>Physical Review B</i> , 2008 , 77,	3.3	54
99	Layer-Dependent Chemically Induced Phase Transition of Two-Dimensional MoS. <i>Nano Letters</i> , 2018 , 18, 3435-3440	11.5	50
98	Electron-rich driven electrochemical solid-state amorphization in Li-Si alloys. <i>Nano Letters</i> , 2013 , 13, 4511-4515	11.5	45
97	Mechanical and electronic properties of Janus monolayer transition metal dichalcogenides. <i>Journal of Physics Condensed Matter</i> , 2018 , 30, 215301	1.8	43
96	Anomalous Li Storage Capability in Atomically Thin Two-Dimensional Sheets of Nonlayered MoO. <i>Nano Letters</i> , 2018 , 18, 1506-1515	11.5	43
95	Comparison of tetragonal and cubic tin as anode for Mg ion batteries. <i>ACS Applied Materials & Interfaces</i> , 2014 , 6, 6786-9	9.5	41
94	Monolayer black phosphorus as potential anode materials for Mg-ion batteries. <i>Journal of Materials Science</i> , 2016 , 51, 7355-7360	4.3	41
93	First principles prediction of nitrogen-doped carbon nanotubes as a high-performance cathode for LiB batteries. <i>RSC Advances</i> , 2013 , 3, 16775	3.7	40
92	Atomistic simulations of the size, orientation, and temperature dependence of tensile behavior in GaN nanowires. <i>Physical Review B</i> , 2007 , 76,	3.3	39
91	Modelling and simulation of electron-rich effect on Li diffusion in group IVA elements (Si, Ge and Sn) for Li ion batteries. <i>Journal of Materials Chemistry A</i> , 2014 , 2, 13976-13982	13	37
90	Novel Electronic and Magnetic Properties of Graphene Nanoflakes in a Boron Nitride Layer. <i>Journal of Physical Chemistry C</i> , 2012 , 116, 7581-7586	3.8	34
89	Electronic and optical properties of two-dimensional covalent organic frameworks. <i>Journal of Materials Chemistry</i> , 2012 , 22, 16964		33
88	Large Intercalation Pseudocapacitance in 2D VO (B): Breaking through the Kinetic Barrier. <i>Advanced Materials</i> , 2018 , 30, e1803594	24	32
87	Electronic Modulation of Nickel Disulfide toward Efficient Water Electrolysis. <i>Small</i> , 2020 , 16, e1905885	11	31
86	Triggering Catalytic Active Sites for Hydrogen Evolution Reaction by Intrinsic Defects in Janus Monolayer MoSSe. <i>Journal of Physical Chemistry C</i> , 2019 , 123, 12261-12267	3.8	29
85	Tuning the band structures of single walled silicon carbide nanotubes with uniaxial strain: A first principles study. <i>Applied Physics Letters</i> , 2008 , 92, 183116	3.4	28
84	Sodium adsorption and diffusion on monolayer black phosphorus with intrinsic defects. <i>Applied Surface Science</i> , 2018 , 427, 189-197	6.7	27
83	Highly Efficient and Stable Hydrogen Production in All pH Range by Two-Dimensional Structured Metal-Doped Tungsten Semicarbides. <i>Research</i> , 2019 , 2019, 4029516	7.8	27

82	Defects in gallium nitride nanowires: First principles calculations. <i>Journal of Applied Physics</i> , 2010 , 108, 044305	2.5	26
81	Adsorption and diffusion of lithium on heteroatom-doped monolayer molybdenum disulfide. <i>Applied Surface Science</i> , 2018 , 455, 911-918	6.7	21
80	Ultra-sensitive UV and H ₂ S dual functional sensors based on porous In ₂ O ₃ nanoparticles operated at room temperature. <i>Journal of Alloys and Compounds</i> , 2019 , 770, 721-731	5.7	21
79	Structure and electronic properties of transition metal dichalcogenide MX ₂ (M = Mo, W, Nb; X = S, Se) monolayers with grain boundaries. <i>Materials Chemistry and Physics</i> , 2014 , 147, 1068-1073	4.4	21
78	Review on the temperature memory effect in shape memory alloys. <i>International Journal of Smart and Nano Materials</i> , 2011 , 2, 101-119	3.6	21
77	2H- α T β phase transformation in Janus monolayer MoSSe and MoSTe: an efficient hole injection contact for 2H-MoS ₂ . <i>Journal of Materials Chemistry C</i> , 2018 , 6, 13000-13005	7.1	21
76	Electric field enhanced adsorption and diffusion of adatoms in MoS ₂ monolayer. <i>Materials Chemistry and Physics</i> , 2016 , 183, 392-397	4.4	20
75	Controlling electronic structures by irradiation in single-walled SiC nanotubes: a first-principles molecular dynamics study. <i>Nanotechnology</i> , 2009 , 20, 075708	3.4	20
74	Electron Transfer Governed Crystal Transformation of Tungsten Trioxide upon Li Ions Intercalation. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 24567-72	9.5	18
73	First principles study of the electronic properties of twinned SiC nanowires. <i>Journal of Nanoparticle Research</i> , 2011 , 13, 185-191	2.3	18
72	Structural, electronic and mechanical properties of two-dimensional Janus transition metal carbides and nitrides. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2018 , 103, 307-313	3	18
71	Ab initio study of adsorption and diffusion of lithium on transition metal dichalcogenide monolayers. <i>Beilstein Journal of Nanotechnology</i> , 2017 , 8, 2711-2718	3	17
70	Density functional theory study of diffusion of lithium in LiSn alloys. <i>Journal of Materials Science</i> , 2016 , 51, 3271-3276	4.3	17
69	Tuning the n-type contact of graphene on Janus MoSSe monolayer by strain and electric field. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2019 , 110, 148-152	3	16
68	A two-dimensional MoS/CN broken-gap heterostructure, a first principles study.. <i>RSC Advances</i> , 2019 , 9, 19837-19843	3.7	16
67	Rhenium doping induced structural transformation in mono-layered MoS ₂ with improved catalytic activity for hydrogen evolution reaction. <i>Journal Physics D: Applied Physics</i> , 2017 , 50, 405303	3	16
66	Oxygen Deficiency and Defect Chemistry in Delithiated Spinel LiNi _{0.5} Mn _{1.5} O ₄ Cathodes for Li-Ion Batteries. <i>ChemElectroChem</i> , 2015 , 2, 1182-1186	4.3	16
65	Thermal conductivity of GaN nanotubes simulated by nonequilibrium molecular dynamics. <i>Physical Review B</i> , 2007 , 75,	3.3	16

64	Modeling and Simulation of Piezoelectrically Driven Self-Charging Lithium Ion Batteries. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 15893-15897	9.5	15
63	Composition Dependence of Lithium Diffusion in Lithium Silicide: A Density Functional Theory Study. <i>ChemElectroChem</i> , 2015 , 2, 1292-1297	4.3	15
62	Stone-Wales defects created by low energy recoils in single-walled silicon carbide nanotubes. <i>Journal of Applied Physics</i> , 2009 , 106, 084305	2.5	15
61	Cu- and Fe-Codoped Ni Porous Networks as an Active Electrocatalyst for Hydrogen Evolution in Alkaline Medium. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 2380-2389	9.5	15
60	Catalytic activity for the hydrogen evolution reaction of edges in Janus monolayer MoXY (X/Y = S, Se, and Te). <i>Physical Chemistry Chemical Physics</i> , 2018 , 20, 29423-29429	3.6	15
59	Grain Boundaries Trigger Basal Plane Catalytic Activity for the Hydrogen Evolution Reaction in Monolayer MoS ₂ . <i>Electrocatalysis</i> , 2018 , 9, 744-751	2.7	15
58	Structure and electronic properties of boron nitride sheet with grain boundaries. <i>Journal of Nanoparticle Research</i> , 2012 , 14, 1	2.3	14
57	Effect of oxygen doping on the hydrogen evolution reaction in MoS ₂ monolayer. <i>Journal of the Taiwan Institute of Chemical Engineers</i> , 2018 , 82, 163-168	5.3	12
56	Transition metal atom (Ti, V, Mn, Fe, and Co) anchored silicene for hydrogen evolution reaction.. <i>RSC Advances</i> , 2019 , 9, 26321-26326	3.7	11
55	Direct formation of SiO ₂ /SnO ₂ composite nanoparticles with high surface area and high thermal stability by sol-gel-hydrothermal process. <i>Journal of Sol-Gel Science and Technology</i> , 2009 , 49, 196-201	2.3	11
54	The effects of monovalent metal cations on the crystal and electronic structures of CsM ₂ BiCl (M = Ag, Cu, Na, K, Rb, and Cs) perovskites. <i>Journal of Chemical Physics</i> , 2020 , 153, 141101	3.9	11
53	Mechanical bending induced catalytic activity enhancement of monolayer 1T-MoS ₂ for hydrogen evolution reaction. <i>Journal of Nanoparticle Research</i> , 2017 , 19, 1	2.3	10
52	Improving the catalytic activity for hydrogen evolution of monolayered SnSeS by mechanical strain. <i>Beilstein Journal of Nanotechnology</i> , 2018 , 9, 1820-1827	3	9
51	Lithium and sodium diffusion in solid electrolyte materials of AM ₂ (PO ₄) ₃ (A = Li, Na, M = Ti, Sn and Zr). <i>International Journal of Modern Physics B</i> , 2014 , 28, 1450176	1.1	9
50	Mechanical behavior of twinned SiC nanowires under combined tension-torsion and compression-torsion strain. <i>Journal of Applied Physics</i> , 2010 , 108, 013504	2.5	9
49	Tuning the electronic properties of single-walled SiC nanotubes by external electric field. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2016 , 81, 192-195	3	8
48	Facet-dependent magnesiation behavior of Fe ₃ N as an anode for magnesium ion batteries. <i>RSC Advances</i> , 2017 , 7, 44547-44551	3.7	8
47	Strain Engineering and Electric Field Tunable Electronic Properties of Janus MoSSe/WX ₂ (X = S, Se) van der Waals Heterostructures. <i>Physica Status Solidi (B): Basic Research</i> , 2019 , 256, 1900261	1.3	7

- 46 Density functional theory analysis of surface structures of spinel $\text{LiNi}_0.5\text{Mn}_1.5\text{O}_4$ cathode materials. *Journal of Materials Science*, **2017**, 52, 605-612 4-3 7
- 45 Dual cylindrical metallic grating-cladding polymer hollow waveguide for terahertz transmission with low loss. *Applied Physics Letters*, **2010**, 97, 133502 3-4 7
- 44 Nanostructured NiSeS on Porous-Carbon Skeletons as Highly Efficient Electrocatalyst for Hydrogen Evolution in Acidic Medium. *Inorganic Chemistry*, **2020**, 59, 6018-6025 5-1 7
- 43 Composites of Piezoelectric Materials and Silicon as Anodes for Lithium-Ion Batteries. *ChemElectroChem*, **2017**, 4, 1523-1527 4-3 6
- 42 Out-of-Cell Oxygen Diffusivity Evaluation in Lithium-Air Batteries. *ChemElectroChem*, **2014**, 1, 2052-2057 4-3 6
- 41 Antisite defects in $\text{La}_0.7\text{Sr}_0.3\text{MnO}_3$ and $\text{La}_0.7\text{Sr}_0.3\text{FeO}_3$. *Applied Physics Letters*, **2013**, 102, 151911 3-4 6
- 40 Nanomechanical behavior of single crystalline SiC nanotubes revealed by molecular dynamics simulations. *Journal of Applied Physics*, **2008**, 104, 093506 2-5 6
- 39 Atomistic study of the melting behavior of single crystalline wurtzite gallium nitride nanowires. *Journal of Materials Research*, **2007**, 22, 742-747 2-5 6
- 38 Intrinsic defects in yttrium iron garnet: A first-principles study. *Journal of Applied Physics*, **2020**, 128, 183904 3-4 6
- 37 Density functional theory study of aluminium and chromium doped Yttrium ion garnet. *Materials Research Express*, **2019**, 6, 036105 1-7 6
- 36 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 4-7 6
- 35 Trapping polysulfide on two-dimensional molybdenum disulfide for Li-S batteries through phase selection with optimized binding. *Beilstein Journal of Nanotechnology*, **2019**, 10, 774-780 3 5
- 34 Plasma-Treated Ultrathin Ternary FePSe Nanosheets as a Bifunctional Electrocatalyst for Efficient Zinc-Air Batteries. *ACS Applied Materials & Interfaces*, **2020**, 12, 29393-29403 9-5 5
- 33 Charge separation in wurtzite/zinc-blende heterojunction GaN nanowires. *ChemPhysChem*, **2010**, 11, 3329-32 3-2 5
- 32 Density Functional Theory Study on the Hydrogen Evolution Reaction in the S-rich SnS₂ Nanosheets. *Electrocatalysis*, **2020**, 11, 604-611 2-7 5
- 31 Enhancement of adsorption and diffusion of lithium in single-walled carbon nanotubes by external electric field. *Journal of Nanoparticle Research*, **2016**, 18, 1 2-3 5
- 30 Triggering basal plane active sites of monolayer MoS₂ for the hydrogen evolution reaction by phosphorus doping. *Journal of Nanoparticle Research*, **2018**, 20, 1 2-3 5
- 29 Surface treated nickel phosphide nanosheet with oxygen as highly efficient bifunctional electrocatalysts for overall water splitting. *Applied Surface Science*, **2019**, 496, 143741 6-7 4

28	High Thermoelectric Performance of Sb ₂ Si ₂ Te ₆ Monolayers. <i>Journal of Physical Chemistry C</i> , 2021 , 125, 16413-16419	3.8	4
27	An ab initio molecular dynamics study on the threshold displacement energies in yttrium aluminum garnet. <i>Journal of Applied Physics</i> , 2019 , 126, 055701	2.5	3
26	Atomic scale study of surface orientations and energies of Ti ₂ O ₃ crystals. <i>Applied Physics Letters</i> , 2017 , 111, 181603	3.4	3
25	Orientation and temperature dependence of the tensile behavior of GaN nanowires: an atomistic study. <i>Journal of Materials Science: Materials in Electronics</i> , 2008 , 19, 863-867	2.1	3
24	Improved Thermoelectric Performance of Monolayer HfS by Strain Engineering. <i>ACS Omega</i> , 2021 , 6, 29820-29829	3.9	3
23	Mechanical Properties of Two-Dimensional Materials (Graphene, Silicene and MoS ₂ Monolayer) Upon Lithiation. <i>Journal of Electronic Materials</i> , 2020 , 49, 5713-5720	1.9	3
22	High intrinsic catalytic activity of boron nanotubes for hydrogen evolution reaction: an ab initio study. <i>Materials Research Express</i> , 2019 , 6, 025036	1.7	3
21	Defects in Li-rich manganese-based layered oxide: A first-principles study. <i>Modern Physics Letters B</i> , 2019 , 33, 1950098	1.6	2
20	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). <i>Advanced Energy Materials</i> , 2016 , 6,	21.8	2
19	Mechanical elasticity and piezoelectricity in monolayer transition-metal dichalcogenide alloys. <i>Journal of Physics and Chemistry of Solids</i> , 2019 , 135, 109081	3.9	2
18	Eliminating Trap-States and Functionalizing Vacancies in 2D Semiconductors by Electrochemistry. <i>Small</i> , 2019 , 15, e1901899	11	2
17	Dual-donor codoping approach to realize low-resistance n-type ZnS semiconductor. <i>Applied Physics Letters</i> , 2011 , 99, 052109	3.4	2
16	TENSILE BEHAVIOR OF AMORPHOUS LAYER COATED SILICON CARBIDE NANOWIRES: AN ATOMIC SIMULATION. <i>Modern Physics Letters B</i> , 2011 , 25, 325-332	1.6	2
15	Elastic softening of group IVA (Si, Ge and Sn) materials by electron and lithium doping. <i>Modern Physics Letters B</i> , 2020 , 34, 2050140	1.6	1
14	Tensile behavior of single crystalline GaN nanotube bundles: An atomistic-level study. <i>International Journal of Modern Physics B</i> , 2014 , 28, 1450135	1.1	1
13	First principles study of p-type doping in SiC nanowires: role of quantum effect. <i>Journal of Nanoparticle Research</i> , 2011 , 13, 2887-2892	2.3	1
12	Thermoelectric performance of ZrNX (X = Cl, Br and I) monolayers.. <i>Physical Chemistry Chemical Physics</i> , 2021 , 24, 560-567	3.6	1
11	The dependence of interfacial properties on the layer number in 1T'/2H-MoS ₂ van der Waals heterostructures. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2020 , 384, 126747	2.3	1

10	Pedestrian re-identification based on attribute mining and reasoning. <i>IET Image Processing</i> , 2021 , 15, 2399-2411	1.7	1
9	Effect of Fe content on Cu ₂ Fe x Zn _{1-x} SnS ₄ single crystals fabricated by flux growth method. <i>Journal Physics D: Applied Physics</i> , 2018 , 51, 295107	3	1
8	Energy-efficient speed tuning for real-time applications. <i>Cluster Computing</i> ,1	2.1	0
7	Transition Metal Atoms Anchored on CuPS ₃ Monolayer for Enhancing Catalytic Performance of Hydrogen Evolution Reactions. <i>Electrocatalysis</i> ,1	2.7	0
6	Electronic properties of MoS ₂ /Be ₂ C van der Waals heterostructure: Effect of Bi-axial strain and vertical electric field. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2022 , 139, 115172	3	
5	Threshold displacement energy of lattice atoms in yttrium ion garnet, an ab initio molecular dynamics study. <i>Chemical Physics Letters</i> , 2021 , 771, 138518	2.5	
4	DAFV: A Unified and Real-Time Framework of Joint Detection and Attributes Recognition for Fast Vehicles. <i>Lecture Notes in Computer Science</i> , 2021 , 353-365	0.9	
3	SAN-GAL: Spatial Attention Network Guided by Attribute Label for Person Re-identification. <i>Wireless Communications and Mobile Computing</i> , 2021 , 2021, 1-8	1.9	
2	First-Principles Molecular Dynamics Study of the Threshold Displacement Energy in LiFe ₅ O ₈ . <i>Crystal Research and Technology</i> , 2021 , 56, 2100076	1.3	
1	Strain and electric field tuning the electronic properties of two-dimensional MoS ₂ /ScCl ₃ van der Waals heterostructure. <i>Journal of Materials Science: Materials in Electronics</i> ,1	2.1	