

Zhao Wang

List of Publications by Year in descending order

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124
papers

4,608
citations

109264

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125
all docs

125
docs citations

125
times ranked

6595
citing authors

#	ARTICLE	IF	CITATIONS
1	Superlubricity of molybdenum disulfide subjected to large compressive strains. <i>Friction</i> , 2022, 10, 209-216.	3.4	17
2	Strain-tunable lattice thermal conductivity of the Janus PtSTe monolayer. <i>Journal of Physics Condensed Matter</i> , 2022, 34, 015303.	0.7	6
3	Hydrogen adsorption on TaSe ₂ monolayer doped with light metals: A DFT study. <i>Vacuum</i> , 2022, 196, 110775.	1.6	7
4	Wearable Piezoelectric Nanogenerators Based on Core-Shell Ga-PZT@GaO _x Nanorod-Enabled P(VDF-TrFE) Composites. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 7990-8000.	4.0	21
5	In situ synthesis of MoS ₂ -decorated Zn-doped MoO ₃ for outstanding hydrogen sensing at room temperature. <i>Sensors and Actuators B: Chemical</i> , 2022, 367, 132026.	4.0	10
6	Fast, Sensitive, and Highly Selective Room-Temperature Hydrogen Sensing of Defect-Rich Orthorhombic Nb ₂ O ₅ Nanobelts with an Abnormal p-Type Sensor Response. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 25937-25948.	4.0	10
7	Investigations of drug-induced liver injury by a peroxy nitrite activatable two-photon fluorescence probe. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 2021, 246, 118960.	2.0	18
8	Alkylaminomaleimide fluorophores: synthesis via air oxidation and emission modulation by twisted intramolecular charge transfer. <i>Organic Chemistry Frontiers</i> , 2021, 8, 239-248.	2.3	14
9	A DFT study on enhanced adsorption of H ₂ on Be-decorated porous graphene nanosheet and the effects of applied electrical fields. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 5891-5903.	3.8	15
10	A DFT study on the hydrogen storage performance of the Sb monolayer decorated with Li, Na or K. <i>Vacuum</i> , 2021, 183, 109868.	1.6	15
11	Highly Sensitive Near-Infrared Imaging of Peroxynitrite Fluxes in Inflammation Progress. <i>Analytical Chemistry</i> , 2021, 93, 3035-3041.	3.2	66
12	An atomistic model for predicting charge distribution in hexagonal boron nitride. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2021, 127, 114567.	1.3	3
13	Repairable Characteristic of Zn ₄ Sb ₃ and Its Influence on Thermoelectric Performance. <i>ACS Applied Energy Materials</i> , 2021, 4, 5332-5338.	2.5	5
14	The improved CO adsorption/sensing performance of Stone-Wales defected graphene doped with Fe: A DFT study. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2021, 128, 114603.	1.3	10
15	Metal Oxide Based Heterojunctions for Gas Sensors: A Review. <i>Nanomaterials</i> , 2021, 11, 1026.	1.9	77
16	A DFT study on the outstanding hydrogen storage performance of the Ti-decorated MoS ₂ monolayer. <i>Surfaces and Interfaces</i> , 2021, 26, 101329.	1.5	8
17	A DFT study on the hydrogen storage performance of MoS ₂ monolayers doped with group 8B transition metals. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 24233-24246.	3.8	20
18	Black Phosphorus@Ti ₃ C ₂ T MXene Composites with Engineered Chemical Bonds for Commercial-Level Capacitive Energy Storage. <i>ACS Nano</i> , 2021, 15, 12975-12987.	7.3	70

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19	Ultrahigh piezoelectric coefficients of Li-doped (K,Na)NbO ₃ nanorod arrays with manipulated O-T phase boundary: Towards energy harvesting and self-powered human movement monitoring. <i>Nano Energy</i> , 2021, 86, 106072.	8.2	15
20	Fe-doped MoO ₃ nanoribbons for high-performance hydrogen sensor at room temperature. <i>Journal of Alloys and Compounds</i> , 2021, 877, 160200.	2.8	24
21	Improper molecular ferroelectrics with simultaneous ultrahigh pyroelectricity and figures of merit. <i>Science Advances</i> , 2021, 7, .	4.7	32
22	Influence of Onion-like Carbonaceous Particles on the Aggregation Process of Hydrocarbons. <i>ACS Omega</i> , 2021, 6, 27898-27904.	1.6	2
23	Machine-learning Interpretation of the Correlation between Infrared Emission Features of Interstellar Polycyclic Aromatic Hydrocarbons. <i>Astrophysical Journal</i> , 2021, 922, 101.	1.6	5
24	A DFT study of the enhanced hydrogen storage performance of the Li-decorated graphene nanoribbons. <i>Vacuum</i> , 2020, 171, 109011.	1.6	57
25	Voltage-induced penetration effect in liquid metals at room temperature. <i>National Science Review</i> , 2020, 7, 366-372.	4.6	31
26	Atomistic building blocks of one-dimensional Guinier–Preston–Bagaryatsky zones in Al-Cu-Mg alloys. <i>Materials and Design</i> , 2020, 187, 108393.	3.3	14
27	A DFT study of the selective adsorption of XO ₂ (X=O, S or N) on Ta-doped graphene. <i>Computational and Theoretical Chemistry</i> , 2020, 1190, 113003.	1.1	11
28	Atomic scale study of the oxygen annealing effect on piezoelectricity enhancement of (K,Na)NbO ₃ nanorods. <i>Journal of Materials Chemistry C</i> , 2020, 8, 15830-15838.	2.7	3
29	Hydrogen sensing kinetics of laterally aligned MoO ₃ nanoribbon arrays with accelerated response and recovery performances at room temperature. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 23841-23850.	3.8	12
30	Twisted bilayer graphene as a linear nanoactuator. <i>Physical Review B</i> , 2020, 102, .	1.1	4
31	Activatable Two-Photon Near-Infrared Fluorescent Probe Tailored toward Peroxynitrite <i>in Vivo</i> Imaging in Tumors. <i>Analytical Chemistry</i> , 2020, 92, 13305-13312.	3.2	71
32	Revealing the atomistic mechanisms of strain glass transition in ferroelastics. <i>Acta Materialia</i> , 2020, 194, 134-143.	3.8	14
33	The enhanced hydrogen-sensing performance of the Fe-doped MoO ₃ monolayer: A DFT study. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 10257-10267.	3.8	12
34	Chirality-Selective Transport of Benzene Molecules on Carbon Nanotubes. <i>Journal of Physical Chemistry C</i> , 2020, 124, 3851-3856.	1.5	9
35	The adsorption of NO onto an Al-doped ZnO monolayer and the effects of applied electric fields: A DFT study. <i>Computational and Theoretical Chemistry</i> , 2020, 1180, 112829.	1.1	26
36	Formation of Interstellar Complex Polycyclic Aromatic Hydrocarbons: Insights from Molecular Dynamics Simulations of Dehydrogenated Benzene. <i>Astrophysical Journal</i> , 2020, 900, 188.	1.6	16

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37	Machine-learning Prediction of Infrared Spectra of Interstellar Polycyclic Aromatic Hydrocarbons. <i>Astrophysical Journal</i> , 2020, 902, 100.	1.6	16
38	High-Performance Gas Sensors Based on Nanostructured Metal Oxide Heterojunctions. <i>Materials Horizons</i> , 2020, , 19-70.	0.3	1
39	Gear junctions between chiral boron nitride nanotubes. <i>Physical Review B</i> , 2019, 100, .	1.1	3
40	Dramatic effect of a transverse electric field on frictional properties of graphene. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 385301.	1.3	3
41	Enhanced hydrogen storage performance of graphene nanoflakes doped with Cr atoms: a DFT study. <i>RSC Advances</i> , 2019, 9, 25690-25696.	1.7	40
42	Hydrogen sensors based on Pt-decorated SnO ₂ nanorods with fast and sensitive room-temperature sensing performance. <i>Journal of Alloys and Compounds</i> , 2019, 811, 152086.	2.8	35
43	Room-temperature H ₂ gasochromic behavior of Pd-modified MoO ₃ nanowire labels. <i>Materials Chemistry and Physics</i> , 2019, 227, 111-116.	2.0	21
44	Chirality-dependent motion transmission between aligned carbon nanotubes. <i>Carbon</i> , 2019, 151, 130-135.	5.4	13
45	Selective Conduction of Organic Molecules via Free-Standing Graphene. <i>Journal of Physical Chemistry C</i> , 2019, 123, 15166-15170.	1.5	11
46	Ultra-fast and highly selective room-temperature formaldehyde gas sensing of Pt-decorated MoO ₃ nanobelts. <i>Journal of Alloys and Compounds</i> , 2019, 797, 666-675.	2.8	88
47	Influence of Structural Parameters on the Surface Enhanced Raman Scattering of Au Nanoarrays. <i>Journal of Nanoscience and Nanotechnology</i> , 2019, 19, 5317-5322.	0.9	4
48	Size effect on the spontaneous coalescence of nanowires. <i>Nanotechnology</i> , 2019, 30, 245601.	1.3	8
49	Enhancement of the room-temperature hydrogen sensing performance of MoO ₃ nanoribbons annealed in a reducing gas. <i>International Journal of Hydrogen Energy</i> , 2019, 44, 7725-7733.	3.8	43
50	A DFT study of CO adsorption on the pristine, defective, In-doped and Sb-doped graphene and the effect of applied electric field. <i>Applied Surface Science</i> , 2019, 480, 205-211.	3.1	113
51	An Ultrasensitive and Ultraspecific Hydrogen Sensor Based on Defect-Dominated Electron Scattering in Pt Nanowire Arrays. <i>Advanced Materials Interfaces</i> , 2019, 6, 1801304.	1.9	13
52	Homogeneous ZnO nanowire arrays p-n junction for blue light-emitting diode applications. <i>Optics Express</i> , 2019, 27, A1207.	1.7	24
53	Fabrication of Cu@Pt core-shell nanohooks by <i>in situ</i> reconstructing the Pt-shells. <i>Nanotechnology</i> , 2018, 29, 215301.	1.3	3
54	Evolution of the composition, structure, and piezoelectric performance of (K _{1-x} N _x)NbO ₃ nanorod arrays with hydrothermal reaction time. <i>Applied Physics Letters</i> , 2018, 112, .	1.5	7

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55	High-performance piezoelectric energy harvesting of vertically aligned Pb(Zr,Ti)O ₃ nanorod arrays. RSC Advances, 2018, 8, 7422-7427.	1.7	45
56	Defect-original room-temperature hydrogen sensing of MoO ₃ nanoribbon: Experimental and theoretical studies. Sensors and Actuators B: Chemical, 2018, 260, 21-32.	4.0	56
57	Bias-switchable negative and positive photoconductivity in 2D FePS ₃ ultraviolet photodetectors. Nanotechnology, 2018, 29, 244001.	1.3	67
58	Adsorption of Organic Molecules on Onion-like Carbons: Insights on the Formation of Interstellar Hydrocarbons. Astrophysical Journal, 2018, 867, 133.	1.6	21
59	Controllable Elasticity Storage and Release in CuO@Pt Core-Shell Nanowires. ChemNanoMat, 2018, 4, 1140-1144.	1.5	4
60	An atomistic model for the charge distribution in layered MoS ₂ . Journal of Chemical Physics, 2018, 149, 124102.	1.2	5
61	Lubricity of graphene on rough Au surfaces. Journal Physics D: Applied Physics, 2018, 51, 435301.	1.3	9
62	Remarkably Enhanced Room-Temperature Hydrogen Sensing of SnO ₂ Nanoflowers via Vacuum Annealing Treatment. Sensors, 2018, 18, 949.	2.1	19
63	Room-temperature hydrogen sensing performance of Nb ₂ O ₅ nanorod arrays. RSC Advances, 2018, 8, 16897-16901.	1.7	21
64	Novel Periodic Bilayer Au Nanostructures for Ultrasensitive Surface-Enhanced Raman Spectroscopy. Advanced Materials Interfaces, 2018, 5, 1800820.	1.9	7
65	Understanding Phonon Scattering by Nanoprecipitates in Potassium-Doped Lead Chalcogenides. ACS Applied Materials & Interfaces, 2017, 9, 3686-3693.	4.0	6
66	Rapid hydrogen sensing response and aging of Î±-MoO ₃ nanowires paper sensor. International Journal of Hydrogen Energy, 2017, 42, 8399-8405.	3.8	47
67	Phase boundary and annealing dependent piezoelectricity in lead-free (K,Na)NbO ₃ nanorod arrays. Applied Physics Letters, 2017, 110, .	1.5	14
68	A novel sensor made of Antimony Doped Tin Oxide-silica composite sol on a glassy carbon electrode modified by single-walled carbon nanotubes for detection of norepinephrine. Materials Science and Engineering C, 2017, 80, 180-186.	3.8	28
69	Remarkably accelerated room-temperature hydrogen sensing of MoO ₃ nanoribbon/graphene composites by suppressing the nanojunction effects. Sensors and Actuators B: Chemical, 2017, 248, 160-168.	4.0	41
70	Microstructure-dependent mechanical properties of semi-solid copper alloys. Journal of Alloys and Compounds, 2017, 715, 413-420.	2.8	15
71	Modelling of the electronic and ferroelectric properties of trichloroacetamide using Monte Carlo and first-principles calculations. Journal of Materiomics, 2017, 3, 130-134.	2.8	6
72	Flexible Piezoelectric-Induced Pressure Sensors for Static Measurements Based on Nanowires/Graphene Heterostructures. ACS Nano, 2017, 11, 4507-4513.	7.3	435

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73	Orientation-dependent piezoresponse and high-performance energy harvesting of lead-free (K,Na)NbO ₃ nanorod arrays. RSC Advances, 2017, 7, 16908-16915.	1.7	17
74	Inflating hollow nanocrystals through a repeated Kirkendall cavitation process. Nature Communications, 2017, 8, 1261.	5.8	135
75	Self-Powered Viscosity and Pressure Sensing in Microfluidic Systems Based on the Piezoelectric Energy Harvesting of Flowing Droplets. ACS Applied Materials & Interfaces, 2017, 9, 28586-28595.	4.0	46
76	Atomic Resolution Interfacial Structure of Lead-free Ferroelectric K _{0.5} Na _{0.5} NbO ₃ Thin films Deposited on SrTiO ₃ . Scientific Reports, 2016, 6, 37788.	1.6	10
77	A self-powered vibration sensor based on electrospun poly(vinylidene fluoride) nanofibres with enhanced piezoelectric response. Smart Materials and Structures, 2016, 25, 105010.	1.8	33
78	Rapid response hydrogen sensor based on nanoporous Pd thin films. International Journal of Hydrogen Energy, 2016, 41, 10986-10990.	3.8	58
79	Optimizing phonon scattering by nanoprecipitates in lead chalcogenides. Applied Physics Letters, 2016, 108, 113901.	1.5	6
80	Ferromagnetic and Photocatalytic Properties of Layered Perovskite LaBaCo ₂ O ₆ Nanostructures. Journal of Nanoscience and Nanotechnology, 2016, 16, 930-933.	0.9	4
81	Mechanisms governing phonon scattering by topological defects in graphene nanoribbons. Nanotechnology, 2016, 27, 055401.	1.3	8
82	Role of force-constant difference in phonon scattering by nano-precipitates in PbTe. Journal of Applied Physics, 2015, 118, .	1.1	12
83	Piezoelectric Nanowires in Energy Harvesting Applications. Advances in Materials Science and Engineering, 2015, 2015, 1-21.	1.0	66
84	Fast and highly sensitive humidity sensors based on NaNbO ₃ nanofibers. RSC Advances, 2015, 5, 20453-20458.	1.7	37
85	(K,Na)NbO ₃ Nanofiber-based Self-Powered Sensors for Accurate Detection of Dynamic Strain. ACS Applied Materials & Interfaces, 2015, 7, 4921-4927.	4.0	29
86	Atomistic mechanisms governing structural stability change of zinc antimony thermoelectrics. Applied Physics Letters, 2015, 106, 013904.	1.5	8
87	Highly Responsive Room-Temperature Hydrogen Sensing of λ -MoO ₃ Nanoribbon Membranes. ACS Applied Materials & Interfaces, 2015, 7, 9247-9253.	4.0	125
88	Diffusive versus Displacive Contact Plasticity of Nanoscale Asperities: Temperature- and Velocity-Dependent Strongest Size. Nano Letters, 2015, 15, 6582-6585.	4.5	35
89	Real-Time Characterization of Fibrinogen Interaction with Modified Titanium Dioxide Film by Quartz Crystal Microbalance with Dissipation. Chinese Journal of Chemical Physics, 2014, 27, 355-360.	0.6	2
90	Investigation of the oxidation states of Cu additive in colored borosilicate glasses by electron energy loss spectroscopy. Journal of Applied Physics, 2014, 116, .	1.1	25

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91	Strong enhancement of phonon scattering through nanoscale grains in lead sulfide thermoelectrics. <i>NPG Asia Materials</i> , 2014, 6, e108-e108.	3.8	140
92	Engineering the field emission properties of graphene film by gas adsorbates. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 1850-1855.	1.3	18
93	Hydrothermal growth and optical properties of Nb ₂ O ₅ nanorod arrays. <i>Journal of Materials Chemistry C</i> , 2014, 2, 8185-8190.	2.7	49
94	Unexpected High-Temperature Stability of $\hat{\Gamma}^2$ -Zn ₄ Sb ₃ Opens the Door to Enhanced Thermoelectric Performance. <i>Journal of the American Chemical Society</i> , 2014, 136, 1497-1504.	6.6	115
95	Atomistic origin of glass-like Zn ₄ Sb ₃ thermal conductivity. <i>Applied Physics Letters</i> , 2013, 103, 103902.	1.5	15
96	Electromechanical Conversion Behavior of K _{0.5} Na _{0.5} NbO ₃ Nanorods Synthesized by Hydrothermal Method. <i>Integrated Ferroelectrics</i> , 2013, 142, 24-30.	0.3	14
97	Hydrogen Gas Sensors Based on Semiconductor Oxide Nanostructures. <i>Sensors</i> , 2012, 12, 5517-5550.	2.1	358
98	Compression of Nanowires Using a Flat Indenter: Diametrical Elasticity Measurement. <i>Nano Letters</i> , 2012, 12, 2289-2293.	4.5	17
99	Fast and highly-sensitive hydrogen sensing of Nb ₂ O ₅ nanowires at room temperature. <i>International Journal of Hydrogen Energy</i> , 2012, 37, 4526-4532.	3.8	118
100	Assessing the Thermoelectric Properties of Sintered Compounds via High-Throughput <i>ab-Initio</i> Calculations. <i>Physical Review X</i> , 2011, 1, .	2.8	92
101	A new multiscale formulation for the electromechanical behavior of nanomaterials. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2011, 200, 2447-2457.	3.4	15
102	Influence of lower current densities on the residual stress and structure of thick nickel electrodeposits. <i>Surface and Coatings Technology</i> , 2011, 205, 3651-3657.	2.2	43
103	Periodic ripples in suspended graphene. <i>Physical Review B</i> , 2011, 83, .	1.1	67
104	Thermoelectric transport properties of silicon: Toward an <i>ab initio</i> approach. <i>Physical Review B</i> , 2011, 83, .	1.1	57
105	Absence of Casimir regime in two-dimensional nanoribbon phonon conduction. <i>Applied Physics Letters</i> , 2011, 99, .	1.5	41
106	Synthesis, characterization and ferroelectric properties of lead-free K _{0.5} Na _{0.5} NbO ₃ nanotube arrays. <i>Journal of Applied Physics</i> , 2011, 109, .	1.1	19
107	Hollow Urchin-like ZnO thin Films by Electrochemical Deposition. <i>Advanced Materials</i> , 2010, 22, 1607-1612.	11.1	175
108	Twisting carbon nanotubes: A molecular dynamics study. <i>Surface Science</i> , 2010, 604, 496-499.	0.8	12

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109	Electrostatics of graphene: Charge distribution and capacitance. <i>Chemical Physics Letters</i> , 2010, 489, 229-236.	1.2	46
110	Orientation-Dependent Control Synthesis of $\text{KTa}_{0.25}\text{Nb}_{0.75}\text{O}_3$ Nanorods. <i>Journal of the American Ceramic Society</i> , 2010, 93, 609-613.	1.9	25
111	Diameter dependence of SiGe nanowire thermal conductivity. <i>Applied Physics Letters</i> , 2010, 97, .	1.5	127
112	Mass density of individual cobalt nanowires. <i>Applied Physics Letters</i> , 2010, 96, 051903.	1.5	4
113	Deflection of suspended graphene by a transverse electric field. <i>Physical Review B</i> , 2010, 81, .	1.1	17
114	Synthesis, growth mechanism and optical properties of (K,Na)NbO ₃ nanostructures. <i>CrystEngComm</i> , 2010, 12, 3157.	1.3	117
115	Raman scattering, electronic, and ferroelectric properties of Nd modified Bi ₄ Ti ₃ O ₁₂ nanotube arrays. <i>Journal of Applied Physics</i> , 2010, 107, 094105.	1.1	16
116	Fabrication and Characterization of $\text{K}_{0.5}\text{Na}_{0.5}\text{NbO}_3$ Nanotube Arrays by Sol-Gel AAO Template Method. <i>Wuji Cailiao Xuebao/Journal of Inorganic Materials</i> , 2010, 25, 687-690.	0.6	1
117	Deformation of Doubly Clamped Single-Walled Carbon Nanotubes in an Electrostatic Field. <i>Physical Review Letters</i> , 2009, 102, 215501.	2.9	27
118	Geometry-Dependent Nonlinear Decrease of the Effective Young's Modulus of Single-Walled Carbon Nanotubes Submitted to Large Tensile Loadings. <i>Fullerenes Nanotubes and Carbon Nanostructures</i> , 2009, 17, 1-10.	1.0	12
119	Alignment of graphene nanoribbons by an electric field. <i>Carbon</i> , 2009, 47, 3050-3053.	5.4	51
120	Effects of substrate and electric fields on charges in carbon nanotubes. <i>Physical Review B</i> , 2009, 79, .	1.1	14
121	Electric charge enhancements in carbon nanotubes: Theory and experiments. <i>Physical Review B</i> , 2008, 78, .	1.1	27
122	Electrostatic deflections of cantilevered semiconducting single-walled carbon nanotubes. <i>Physical Review B</i> , 2007, 75, .	1.1	28
123	Electrostatic deflections of cantilevered metallic carbon nanotubes via charge-dipole model. <i>Physical Review B</i> , 2007, 76, .	1.1	31
124	The Anisotropic Growth of Perovskite Oxide Nanowires. , 0, , .		2