Zhuhua Zhang

List of Publications by Year
in descending order

137 papers	9,722 citations	38660 50 h-index	38300 95 g-index
147 all docs	147 docs citations	147 times ranked	11066 citing authors

#	Article	IF	Citations
1	Flexoelectricity enhanced water splitting and hydrogen evolution reaction on grain boundaries of monolayer transition metal dichalcogenides. Nano Research, 2022, 15, 978-984.	5.8	15
2	An analog of Friedel oscillations in nanoconfined water. National Science Review, 2022, 9, .	4.6	5
3	A multiferroic vanadium phosphide monolayer with ferromagnetic half-metallicity and topological Dirac states. Nanoscale Horizons, 2022, 7, 192-197.	4.1	11
4	A multiferroic iron arsenide monolayer. Nanoscale Advances, 2022, 4, 1324-1329.	2.2	5
5	Borophane Polymorphs. Journal of Physical Chemistry Letters, 2022, 13, 1107-1113.	2.1	12
6	Prediction of freestanding semiconducting bilayer borophenes. Nano Research, 2022, 15, 5752-5757.	5.8	15
7	Amorphizing noble metal chalcogenide catalysts at the single-layer limit towards hydrogen production. Nature Catalysis, 2022, 5, 212-221.	16.1	113
8	Direct growth of single-metal-atom chains. , 2022, 1, 245-253.		16
9	Quasi-Freestanding Bilayer Borophene on Ag(111). Nano Letters, 2022, 22, 3488-3494.	4.5	31
10	Giant mechanocaloric effect of nanoconfined water near room temperature. Cell Reports Physical Science, 2022, , 100822.	2.8	5
11	Flexoelectricity in hexagonal boron nitride monolayers. Extreme Mechanics Letters, 2022, 52, 101669.	2.0	12
12	Ion Hydration under Nanoscale Confinement: Dimensionality and Scale Effects. Journal of Physical Chemistry Letters, 2022, 13, 4815-4822.	2.1	8
13	Hydrovoltaic technology: from mechanism to applications. Chemical Society Reviews, 2022, 51, 4902-4927.	18.7	110
14	Roomâ€Temperature Colossal Elastocaloric Effects in Threeâ€Dimensional Graphene Architectures: An Atomistic Study. Advanced Functional Materials, 2022, 32, .	7.8	10
15	Self-sustained electricity generator driven by the compatible integration of ambient moisture adsorption and evaporation. Nature Communications, 2022, 13, .	5.8	81
16	Robust Quantum Anomalous Hall States in Monolayer and Few-Layer TiTe. Nano Letters, 2022, 22, 5379-5384.	4.5	15
17	Functionalizations of boron nitride nanostructures. Science China Technological Sciences, 2021, 64, 1-10.	2.0	9
18	Energetics of graphene origami and their â€œspatial resolutionâ€. MRS Bulletin, 2021, 46, 481-486.	1.7	3

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19	Probing the Interaction of Water Molecules with Oxidized Graphene by First Principles. Journal of Physical Chemistry C, 2021, 125, 4580-4587.	1.5	14
20	Mechanistic insight into electricity generation from moving ionic droplets on graphene. Science China Materials, 2021, 64, 2242-2250.	3.5	14
21	Cellulose membranes as moisture-driven actuators with predetermined deformations and high load uptake. International Journal of Smart and Nano Materials, 2021, 12, 146-156.	2.0	11
22	Theory of two-dimensional materials: The soul of the materials. Chinese Science Bulletin, 2021, 66, 533-535.	0.4	0
23	Polymorphism of Segmented Grain Boundaries in Two-Dimensional Transition Metal Dichalcogenides. Nano Letters, 2021, 21, 6014-6021.	4.5	7
24	Stress-dominated growth of two-dimensional materials on nonplanar substrates. Journal of the Mechanics and Physics of Solids, 2021, 157, 104645.	2.3	4
25	Sliding ferroelectricity in two-dimensional MoA₂N₄(A = Si or Ge) bilayers: high polarizations and MoirÃ© potentials. Journal of Materials Chemistry A, 2021, 9, 19659-19663.	5.2	32
26	Structures, Mechanics, and Electronics of Borophanes. Journal of Physical Chemistry C, 2021, 125, 22917-22928.	1.5	4
27	Crossover from Linear Chains to a Honeycomb Network for the Nucleation of Hexagonal Boron Nitride Grown on the Ni(111) Surface. Journal of Physical Chemistry C, 2021, 125, 26542-26551.	1.5	59
28	A family of all sp²-bonded carbon allotropes of topological semimetals with strain-robust nodal-lines. Journal of Materials Chemistry C, 2020, 8, 1548-1555.	2.7	24
29	Intermediate Phase Enhances Inorganic Perovskite and Metal Oxide Interface for Efficient Photovoltaics. Joule, 2020, 4, 222-234.	11.7	88
30	A folded ice monolayer. Physical Chemistry Chemical Physics, 2020, 22, 20388-20393.	1.3	5
31	Dislocations as Single Photon Sources in Two-Dimensional Semiconductors. Nano Letters, 2020, 20, 4136-4143.	4.5	16
32	Strain-driven growth of ultra-long two-dimensional nano-channels. Nature Communications, 2020, 11, 772.	5.8	31
33	Structure and Dynamics of the Electronic Heterointerfaces in MoS₂ by First-Principles Simulations. Journal of Physical Chemistry Letters, 2020, 11, 1644-1649.	2.1	9
34	Intermediate Phase Enhances Inorganic Perovskite and Metal Oxide Interface for Efficient Photovoltaics. Joule, 2020, 4, 507-508.	11.7	4
35	Borophene Concentric Superlattices via Self-Assembly of Twin Boundaries. Nano Letters, 2020, 20, 1315-1321.	4.5	36
36	A Helical Monolayer Ice. Journal of Physical Chemistry Letters, 2020, 11, 3860-3865.	2.1	9

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37	One-dimensional nearly free electron states in borophene. Nanoscale, 2019, 11, 15605-15611.	2.8	25
38	Self-gating in semiconductor electrocatalysis. Nature Materials, 2019, 18, 1098-1104.	13.3	167
39	Strain Gradient Mediated Magnetism and Polarization in Monolayer VSe₂. Journal of Physical Chemistry C, 2019, 123, 24988-24993.	1.5	9
40	Topological hybrid nodal-loop semimetal in a carbon allotrope constructed by interconnected Riemann surfaces. Physical Review B, 2019, 100, .	1.1	26
41	Near-equilibrium growth from borophene edges on silver. Science Advances, 2019, 5, eaax0246.	4.7	47
42	Graphynes for Water Desalination and Gas Separation. Advanced Materials, 2019, 31, e1803772.	11.1	75
43	Predicting two-dimensional semiconducting boron carbides. Nanoscale, 2019, 11, 11099-11106.	2.8	29
44	A Large Family of Synthetic Two-Dimensional Metal Hydrides. Journal of the American Chemical Society, 2019, 141, 7899-7905.	6.6	25
45	Borophene Synthesis on Au(111). ACS Nano, 2019, 13, 3816-3822.	7.3	261
46	Surface multiferroics in silicon enabled by hole-carrier doping. Science Bulletin, 2019, 64, 331-336.	4.3	2
47	Strain-dependent Raman analysis of the G* band in graphene. Physical Review B, 2019, 100, .	1.1	8
48	Width-dependent phase crossover in transition metal dichalcogenide nanoribbons. Nanotechnology, 2019, 30, 075701.	1.3	11
49	Extreme pseudomagnetic fields in carbon nanocones by simple loads. Journal of the Mechanics and Physics of Solids, 2019, 124, 1-9.	2.3	5
50	Chemical Synthesis of Borophene: Progress and Prospective. Wuli Huaxue Xuebao/ Acta Physico - Chimica Sinica, 2019, 35, 565-571.	2.2	17
51	Doping-stabilized two-dimensional black phosphorus. Nanoscale, 2018, 10, 7898-7904.	2.8	20
52	Flexoelectricity in Monolayer Transition Metal Dichalcogenides. Journal of Physical Chemistry Letters, 2018, 9, 6841-6846.	2.1	51
53	Emerging hydrovoltaic technology. Nature Nanotechnology, 2018, 13, 1109-1119.	15.6	429
54	van der Waals screening by graphenelike monolayers. Physical Review B, 2018, 97, .	1.1	17

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55	Intermixing and periodic self-assembly of borophene line defects. Nature Materials, 2018, 17, 783-788.	13.3	129
56	Ultrafast probes of electronâ€“hole transitions between two atomic layers. Nature Communications, 2018, 9, 1859.	5.8	30
57	Ferromagnetism in a semiconducting Janus NbSe hydride monolayer. Journal of Materials Chemistry C, 2018, 6, 9675-9681.	2.7	18
58	Borophene as a prototype for synthetic 2D materials development. Nature Nanotechnology, 2018, 13, 444-450.	15.6	392
59	B₄₀cluster stability, reactivity, and its planar structural precursor. Nanoscale, 2017, 9, 1805-1810.	2.8	33
60	Elasticity, Flexibility, and Ideal Strength of Borophenes. Advanced Functional Materials, 2017, 27, 1605059.	7.8	237
61	Two-dimensional boron: structures, properties and applications. Chemical Society Reviews, 2017, 46, 6746-6763.	18.7	296
62	Gateâ€Voltage Control of Borophene Structure Formation. Angewandte Chemie, 2017, 129, 15623-15628.	1.6	18
63	Gateâ€Voltage Control of Borophene Structure Formation. Angewandte Chemie - International Edition, 2017, 56, 15421-15426.	7.2	44
64	Correction: Two-dimensional boron: structures, properties and applications. Chemical Society Reviews, 2017, 46, 7470-7470.	18.7	2
65	Mechanics of Materials Creation: Nanotubes, Graphene, Carbyne, Borophenes. Procedia IUTAM, 2017, 21, 17-24.	1.2	4
66	Boron Nitride Nanostructures: Fabrication, Functionalization and Applications. Small, 2016, 12, 2942-2968.	5.2	187
67	Cover Image, Volume 6, Issue 4. Wiley Interdisciplinary Reviews: Computational Molecular Science, 2016, 6, i-i.	6.2	0
68	Topochemistry of Bowtie- and Star-Shaped Metal Dichalcogenide Nanoisland Formation. Nano Letters, 2016, 16, 3696-3702.	4.5	46
69	Strain-Induced Electronic Structure Changes in Stacked van der Waals Heterostructures. Nano Letters, 2016, 16, 3314-3320.	4.5	122
70	Polyphony in B flat. Nature Chemistry, 2016, 8, 525-527.	6.6	148
71	Substrate-Induced Nanoscale Undulations of Borophene on Silver. Nano Letters, 2016, 16, 6622-6627.	4.5	155
72	Solidâ€“Vapor Reaction Growth of Transitionâ€Metal Dichalcogenide Monolayers. Angewandte Chemie - International Edition, 2016, 55, 10656-10661.	7.2	27

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73	Solidâ€"Vapor Reaction Growth of Transitionâ€Metal Dichalcogenide Monolayers. Angewandte Chemie, 2016, 128, 10814-10819.	1.6	17
74	Tunable electronic and magnetic properties of twoâ€dimensional materials and their oneâ€dimensional derivatives. Wiley Interdisciplinary Reviews: Computational Molecular Science, 2016, 6, 324-350.	6.2	71
75	Phase crossover in transition metal dichalcogenide nanoclusters. Nanoscale, 2016, 8, 19154-19160.	2.8	8
76	Strong interfacial coupling of MoS2/g-C3N4 van de Waals solids for highly active water reduction. Nano Energy, 2016, 27, 44-50.	8.2	96
77	Layer Engineering of 2D Semiconductor Junctions. Advanced Materials, 2016, 28, 5126-5132.	11.1	63
78	Growth Mechanism and Morphology of Hexagonal Boron Nitride. Nano Letters, 2016, 16, 1398-1403.	4.5	123
79	Substrate-Sensitive Graphene Oxidation. Journal of Physical Chemistry Letters, 2016, 7, 867-873.	2.1	26
80	InnenrÃ¼cktitelbild: Two-Dimensional Boron Monolayers Mediated by Metal Substrates (Angew. Chem.) Tj ETQq0 0 0 rgBT /Overlock 10	1.6	2
81	Twoâ€Dimensional Boron Monolayers Mediated by Metal Substrates. Angewandte Chemie - International Edition, 2015, 54, 13022-13026.	7.2	288
82	Large Single-Crystal Hexagonal Boron Nitride Monolayer Domains with Controlled Morphology and Straight Merging Boundaries. Small, 2015, 11, 4497-4502.	5.2	68
83	Controlled Synthesis of Organic/Inorganic van der Waals Solid for Tunable Lightâ€"Matter Interactions. Advanced Materials, 2015, 27, 7800-7808.	11.1	109
84	Interface-induced warping in hybrid two-dimensional materials. Nano Research, 2015, 8, 2015-2023.	5.8	15
85	Graphene: Unraveling the Sinuous Grain Boundaries in Graphene (Adv. Funct. Mater. 3/2015). Advanced Functional Materials, 2015, 25, 496-496.	7.8	3
86	Photoluminescence Quenching and Charge Transfer in Artificial Heterostacks of Monolayer Transition Metal Dichalcogenides and Few-Layer Black Phosphorus. ACS Nano, 2015, 9, 555-563.	7.3	183
87	Predicting Two-Dimensional Silicon Carbide Monolayers. ACS Nano, 2015, 9, 9802-9809.	7.3	177
88	Unraveling the Sinuous Grain Boundaries in Graphene. Advanced Functional Materials, 2015, 25, 367-373.	7.8	45
89	Generating electricity by moving a droplet of ionic liquid along graphene. Nature Nanotechnology, 2014, 9, 378-383.	15.6	488
90	Waving potential in graphene. Nature Communications, 2014, 5, 3582.	5.8	246

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91	Direct chemical conversion of graphene to boron- and nitrogen- and carbon-containing atomic layers. Nature Communications, 2014, 5, 3193.	5.8	198
92	Dislocation motion and grain boundary migration in two-dimensional tungsten disulphide. Nature Communications, 2014, 5, 4867.	5.8	192
93	Grain boundaries in hybrid two-dimensional materials. Journal of the Mechanics and Physics of Solids, 2014, 70, 62-70.	2.3	11
94	Atomic-scale Observation of Grains and Grain Boundaries in Monolayers of WS₂. Microscopy and Microanalysis, 2014, 20, 1084-1085.	0.2	3
95	Intrinsic Magnetism of Grain Boundaries in Two-Dimensional Metal Dichalcogenides. ACS Nano, 2013, 7, 10475-10481.	7.3	232
96	Universal Rule on Chiralityâ€Dependent Bandgaps in Graphene Antidot Lattices. Small, 2013, 9, 1405-1410.	5.2	34
97	Topâ€“down fabrication of sub-nanometre semiconducting nanoribbons derived from molybdenum disulfide sheets. Nature Communications, 2013, 4, 1776.	5.8	220
98	Self-modulated band gap in boron nitride nanoribbons and hydrogenated sheets. Nanoscale, 2013, 5, 6381.	2.8	53
99	Tunable Gigahertz Oscillators of Gliding Incommensurate Bilayer Graphene Sheets. Journal of Applied Mechanics, Transactions ASME, 2013, 80, .	1.1	9
100	Electronic properties of graphene nanoribbons stacked on boron nitride nanoribbons. Journal of Applied Physics, 2013, 113, .	1.1	14
101	Nonlinearâ€“Linear Transition of Magnetoelectric Effect in Magnetic Graphene Nanoflakes on Substrates. Journal of Physical Chemistry C, 2012, 116, 626-631.	1.5	13
102	Interlocked Catenane-Like Structure Predicted in Au₂₄(SR)₂₀: Implication to Structural Evolution of Thiolated Gold Clusters from Homoleptic Gold(I) Thiolates to Core-Stacked Nanoparticles. Journal of the American Chemical Society, 2012, 134, 3015-3024.	6.6	123
103	Two-Dimensional Tetragonal TiC Monolayer Sheet and Nanoribbons. Journal of the American Chemical Society, 2012, 134, 19326-19329.	6.6	186
104	Strength, plasticity, interlayer interactions and phase transition of low-dimensional nanomaterials under multiple fields. Acta Mechanica Solida Sinica, 2012, 25, 221-243.	1.0	7
105	Strain induced exciton fine-structure splitting and shift in bent ZnO microwires. Scientific Reports, 2012, 2, 452.	1.6	64
106	Harvesting Energy from Water Flow over Graphene?. Nano Letters, 2012, 12, 1736-1741.	4.5	132
107	Intrinsic Metallic and Semiconducting Cubic Boron Nitride Nanofilms. Nano Letters, 2012, 12, 3650-3655.	4.5	42
108	Strainâ€Gradient Effect on Energy Bands in Bent ZnO Microwires. Advanced Materials, 2012, 24, 4707-4711.	11.1	62

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109	Electronic Structures of BC₂N Nanoribbons. Journal of Physical Chemistry C, 2011, 115, 3572-3577.	1.5	37
110	Electronic and Magnetic Properties and Structural Stability of BeO Sheet and Nanoribbons. ACS Applied Materials & Interfaces, 2011, 3, 4787-4795.	4.0	62
111	Fluorinating Hexagonal Boron Nitride into Diamond-Like Nanofilms with Tunable Band Gap and Ferromagnetism. Journal of the American Chemical Society, 2011, 133, 14831-14838.	6.6	79
112	Controlling the Functionalizations of Hexagonal Boron Nitride Structures by Carrier Doping. Journal of Physical Chemistry Letters, 2011, 2, 2168-2173.	2.1	38
113	Fluorinating Hexagonal Boron Nitride/Graphene Multilayers into Hybrid Diamondlike Nanofilms with Tunable Energy Gap. Journal of Physical Chemistry C, 2011, 115, 21678-21684.	1.5	25
114	Tunable magnetism on<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mtext>Si</mml:mtext><mml:mrow><mml:mo>(</mml:mo><mml:mrow><mml:mn>111</mml:mn> chemisorption of graphene nanoribbons. Physical Review B, 2010, 82, .	1.1	5
115	Homogeneous nanocables from double-walled boron-nitride nanotubes using first-principles calculations. Physical Review B, 2010, 82, .	1.1	10
116	Tuning the magnetic and electronic properties of bilayer graphene nanoribbons on Si(001) by bias voltage. Physical Review B, 2010, 81, .	1.1	28
117	Charge-injection induced magnetism and half metallicity in single-layer hexagonal group III/V (BN, BP,) Tj ETQq1 1 0.784314 rgBT /Ove	1.5	41
118	â€œWhite Graphenesâ€ Boron Nitride Nanoribbons via Boron Nitride Nanotube Unwrapping. Nano Letters, 2010, 10, 5049-5055.	4.5	723
119	Electric-Field- and Hydrogen-Passivation-Induced Band Modulations in Armchair ZnO Nanoribbons. Journal of Physical Chemistry C, 2010, 114, 1326-1330.	1.5	42
120	Magnetism in armchair BC2N nanoribbons. Applied Physics Letters, 2010, 96, 133103.	1.5	19
121	Electronic and magnetic properties of zigzag graphene nanoribbons with periodic protruded edges. Physical Review B, 2010, 82, .	1.1	18
122	Selective Oxidation of Carbon Nanotubes into Zigzag Graphene Nanoribbons. Journal of Physical Chemistry C, 2010, 114, 14729-14733.	1.5	13
123	Tuning Magnetism in Zigzag ZnO Nanoribbons by Transverse Electric Fields. ACS Nano, 2010, 4, 2124-2128.	7.3	52
124	Carrier-Tunable Magnetic Ordering in Vanadiumâ^'Naphthalene Sandwich Nanowires. Journal of the American Chemical Society, 2010, 132, 10215-10217.	6.6	57
125	Stability and electronic properties of small boron nitride nanotubes. Journal of Applied Physics, 2009, 105, 084312.	1.1	69
126	Electronic and magnetic properties of zigzag edge graphene nanoribbons with Stoneâ€"Wales defects. Physics Letters, Section A: General, Atomic and Solid State Physics, 2009, 373, 3354-3358.	0.9	41

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127	Stability and Electronic Properties of a Novel C-BN Heteronanotube from First-Principles Calculations. Journal of Physical Chemistry C, 2009, 113, 13108-13114.	1.5	46
128	Electric-field-induced deformation in boron nitride nanotubes. Journal Physics D: Applied Physics, 2009, 42, 085403.	1.3	28
129	Electronic properties of zigzag graphene nanoribbons on Si(001). Applied Physics Letters, 2009, 95, 023107.	1.5	27
130	Tunable Ferromagnetic Spin Ordering in Boron Nitride Nanotubes with Topological Fluorine Adsorption. Journal of the American Chemical Society, 2009, 131, 6874-6879.	6.6	85
131	Magnetoelectric Effect in Graphene Nanoribbons on Substrates via Electric Bias Control of Exchange Splitting. Physical Review Letters, 2009, 103, 187204.	2.9	71
132	Energy-gap modulation of BN ribbons by transverse electric fields: First-principles calculations. Physical Review B, 2008, 77, .	1.1	272
133	Hydrothermal Synthesis and Thermoelectric Transport Properties of Uniform Single-Crystalline Pearl-Necklace-Shaped PbTe Nanowires. Crystal Growth and Design, 2008, 8, 2906-2911.	1.4	91
134	Hydrothermal Synthesis and Thermoelectric Transport Properties of Uniform Single-Crystalline Pearl-Necklace-Shaped PbTe Nanowires. Crystal Growth and Design, 2008, 8, 3878-3878.	1.4	7
135	Freestanding (3,0) boron nitride nanotube: Expected to be stable well over room temperature. Applied Physics Letters, 2008, 93, 223108.	1.5	20
136	Coaxial nanocable: Carbon nanotube core sheathed with boron nitride nanotube. Applied Physics Letters, 2007, 90, 133103.	1.5	29
137	Magnetic properties of strained single-walled carbon nanotubes. Applied Physics Letters, 2007, 90, 053114.	1.5	5