

# Hai-jun Zhang

## List of Publications by Year in descending order

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99  
papers

12,803  
citations

71102

41  
h-index

34986

98  
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99  
all docs

99  
docs citations

99  
times ranked

14192  
citing authors

#	ARTICLE	IF	CITATIONS
1	Topological insulators in Bi <sub>2</sub> Se <sub>3</sub> , Bi <sub>2</sub> Te <sub>3</sub> and Sb <sub>2</sub> Te <sub>3</sub> with a single Dirac cone on the surface. Nature Physics, 2009, 5, 438-442.	16.7	5,240
2	Large-Gap Quantum Spin Hall Insulators in Tin Films. Physical Review Letters, 2013, 111, 136804.	7.8	1,140
3	Experimental observation of topological Fermi arcs in type-II Weyl semimetal MoTe <sub>2</sub> . Nature Physics, 2016, 12, 1105-1110.	16.7	663
4	Topological Axion States in the Magnetic Insulator $\text{MnBi}$ with the Quantized Magnetoelectric Effect. Physical Review Letters, 2019, 122, 206401.	7.8	554
5	FeB <sub>6</sub> Monolayers: The Graphene-like Material with Hypercoordinate Transition Metal. Journal of the American Chemical Society, 2016, 138, 5644-5651.	13.7	219
6	Towards better photocatalysts: first-principles studies of the alloying effects on the photocatalytic activities of bismuth oxyhalides under visible light. Physical Chemistry Chemical Physics, 2012, 14, 1286-1292.	2.8	216
7	Intrinsic magnetic topological insulator phases in the Sb doped MnBi <sub>2</sub> Te <sub>4</sub> bulks and thin flakes. Nature Communications, 2019, 10, 4469.	12.8	212
8	Symmetry-protected ideal Weyl semimetal in HgTe-class materials. Nature Communications, 2016, 7, 11136.	12.8	206
9	Computational studies on the structural, electronic and optical properties of graphene-like MXenes (M <sub>2</sub> CT <sub>2</sub> , M = Ti, Zr, Hf; T = O, F, OH) and their potential applications as visible-light driven photocatalysts. Journal of Materials Chemistry A, 2016, 4, 12913-12920.	10.3	205
10	Dirac State in the FeB <sub>2</sub> Monolayer with Graphene-Like Boron Sheet. Nano Letters, 2016, 16, 6124-6129.	9.1	200
11	First-principles studies on facet-dependent photocatalytic properties of bismuth oxyhalides (BiOXs). RSC Advances, 2012, 2, 9224.	3.6	196
12	Pressure induced metallization with absence of structural transition in layered molybdenum diselenide. Nature Communications, 2015, 6, 7312.	12.8	193
13	Facet-Dependent Catalytic Activity of Nanosheet-Assembled Bismuth Oxyiodide Microspheres in Degradation of Bisphenol A. Environmental Science & Technology, 2015, 49, 6240-6248.	10.0	179
14	Quantum spin hall insulators in strain-modified arsenene. Nanoscale, 2015, 7, 19152-19159.	5.6	151
15	Enhanced Photocatalytic Properties in BiOBr Nanosheets with Dominantly Exposed (102) Facets. Journal of Physical Chemistry C, 2014, 118, 14662-14669.	3.1	150
16	Nanocomposite of Tin Sulfide Nanoparticles with Reduced Graphene Oxide in High-Efficiency Dye-Sensitized Solar Cells. ACS Applied Materials & Interfaces, 2015, 7, 137-143.	8.0	129
17	Flexible structural and electronic properties of a pentagonal B <sub>2</sub> C monolayer via external strain: a computational investigation. Physical Chemistry Chemical Physics, 2015, 17, 24151-24156.	2.8	127
18	Semiconductor-topological insulator transition of two-dimensional SbAs induced by biaxial tensile strain. Physical Review B, 2016, 93, .	3.2	118



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37	Theoretical Studies on the Electronic and Optical Properties of Honeycomb BC <sub>3</sub> monolayer: A Promising Candidate for Metal-free Photocatalysts. ACS Omega, 2018, 3, 10517-10525.	3.5	50
38	Point Defect Effects on Photoelectronic Properties of the Potential Metal-Free C <sub>2</sub> N Photocatalysts: Insight from First-Principles Computations. Journal of Physical Chemistry C, 2018, 122, 5291-5302.	3.1	47
39	Engineering topological phases in the Luttinger semimetal $\text{In}_2\text{Te}_3$ -Sn. Physical Review B, 2018, 97, .	3.2	47
40	Facet-dependent activity of bismuth sulfide as low-cost counter-electrode materials for dye-sensitized solar cells. Journal of Materials Chemistry, 2012, 22, 18572.	6.7	46
41	Synthesis and Catalytic Properties of Sb <sub>2</sub> S <sub>3</sub> Nanowire Bundles as Counter Electrodes for Dye-Sensitized Solar Cells. Journal of Physical Chemistry C, 2013, 117, 10285-10290.	3.1	42
42	Understanding the Halogenation Effects in Diketopyrrolopyrrole-Based Small Molecule Photovoltaics. ACS Applied Materials & Interfaces, 2015, 7, 19914-19922.	8.0	37
43	Strain-induced quantum topological phase transitions in Na <sub>3</sub> Bi. Physical Review B, 2017, 96, .	3.2	37
44	Strain- and Fluorination-Induced Quantum Spin Hall Insulators in Blue Phosphorene: A First-Principles Study. Journal of Physical Chemistry C, 2017, 121, 12945-12952.	3.1	36
45	Synthesis of nickel sulfides of different phases for counter electrodes in dye-sensitized solar cells by a solvothermal method with different solvents. Journal of Materials Research, 2014, 29, 935-941.	2.6	33
46	A Cu <sub>2</sub> B <sub>2</sub> monolayer with planar hypercoordinate motifs: an efficient catalyst for CO electroreduction to ethanol. Journal of Materials Chemistry A, 2020, 8, 9607-9615.	10.3	32
47	Dynamical axion state with hidden pseudospin Chern numbers in $\text{MnBi}$ -based heterostructures. Physical Review B, 2020, 101, .	10.1	31
48	Interface-induced sign reversal of the anomalous Hall effect in magnetic topological insulator heterostructures. Nature Communications, 2021, 12, 79.	12.8	31
49	Convenient synthesis of one-dimensional a-SEP@LDH via self-assembly towards simultaneously improved fire retardance, mechanical strength and thermal resistance for epoxy resin. Composites Part B: Engineering, 2021, 216, 108857.	12.0	31
50	Facet Energy and Reactivity versus Cytotoxicity: The Surprising Behavior of CdS Nanorods. Nano Letters, 2016, 16, 688-694.	9.1	30
51	Porous hexagonal boron oxide monolayer with robust wide band gap: A computational study. FlatChem, 2018, 9, 27-32.	5.6	29
52	Constructing Fe/Fe <sub>3</sub> C nanocrystals with Fe-N <sub>x</sub> sites in Fe-N-C electrocatalyst to achieve high performance for solar cells. Applied Catalysis B: Environmental, 2022, 300, 120726.	20.2	29
53	First-principles studies on structural and electronic properties of GaN-AlN heterostructure nanowires. Nanoscale, 2012, 4, 1078-1084.	5.6	26
54	Hybrid Acoustic Topological Insulator in Three Dimensions. Physical Review Letters, 2019, 123, 195503.	7.8	26

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55	Composition-dependent micro-structure and photocatalytic performance of g-C <sub>3</sub> N <sub>4</sub> quantum dots@SnS <sub>2</sub> heterojunction. Nano Research, 2021, 14, 4188-4196.	10.4	26
56	Composites of Layered Double Hydroxide Nanosheets, Hydroxy-Functionalized Carbon Nanotubes, and Hydroxyapatite Nanoparticles as Flame Retardants for Epoxy Resins. ACS Applied Nano Materials, 2021, 4, 11753-11762.	5.0	25
57	Thermal Decomposition Mechanism and Fire-Extinguishing Performance of <i>trans</i> -1,1,1,4,4,4-Hexafluoro-2-butene: A Potential Candidate for Halon Substitutes. Journal of Physical Chemistry A, 2020, 124, 5944-5953.	2.5	24
58	NiS nanoparticles anchored on reduced graphene oxide to enhance the performance of dye-sensitized solar cells. Journal of Materials Science: Materials in Electronics, 2015, 26, 8176-8181.	2.2	22
59	Isoelectronic analogues of graphene: the BCN monolayers with visible-light absorption and high carrier mobility. Journal of Physics Condensed Matter, 2019, 31, 125301.	1.8	22
60	Revealing Fermi arcs and Weyl nodes in MoTe <sub>2</sub> by quasiparticle interference mapping. Physical Review B, 2017, 95, .	3.2	21
61	Facile synthesis of Bi <sub>2</sub> S <sub>3</sub> @C composite microspheres as low-cost counter electrodes for dye-sensitized solar cells. RSC Advances, 2014, 4, 57412-57418.	3.6	19
62	B <sub>4</sub> C <sub>3</sub> Monolayer with Impressive Electronic, Optical, and Mechanical Properties: A Potential Metal-Free Photocatalyst for CO <sub>2</sub> Reduction under Visible Light. Journal of Physical Chemistry C, 2019, 123, 25091-25101.	3.1	19
63	Interconnected molybdenum disulfide@tin disulfide heterojunctions with different morphologies: a type of enhanced counter electrode for dye-sensitized solar cells. CrystEngComm, 2018, 20, 1252-1263.	2.6	18
64	Low-temperature in-situ grown mullite whiskers toughened heat-resistant inorganic adhesive. Journal of Alloys and Compounds, 2020, 836, 155349.	5.5	18
65	Pressure-stabilized GdN <sub>6</sub> with an armchair antiarmchair structure as a high energy density material. Journal of Materials Chemistry A, 2021, 9, 16751-16758.	10.3	18
66	A novel Pt-free counter electrode for dye-sensitized solar cells: Nickel sulfide hollow spheres. Materials Letters, 2014, 136, 241-244.	2.6	17
67	The mechanism exploration for zero-field ferromagnetism in intrinsic topological insulator MnBi <sub>2</sub> Te <sub>4</sub> by Bi <sub>2</sub> Te <sub>3</sub> intercalations. Applied Physics Letters, 2020, 116, 221902.	3.3	17
68	Synthesis of mesoporous Eu <sub>2</sub> O <sub>3</sub> microspheres and Eu <sub>2</sub> O <sub>3</sub> nanoparticle-wires as well as their optical properties. CrystEngComm, 2011, 13, 637-641.	2.6	16
69	Unconventional dual-vacancies in nickel diselenide-graphene nanocomposite for high-efficiency oxygen evolution catalysis. Nano Research, 2020, 13, 3292-3298.	10.4	16
70	Evidence of topological nodal lines and surface states in the centrosymmetric superconductor $\text{SnTaS}_2$ . Physical Review B, 2021, 103, .	3.2	15
71	Coexistence of ferromagnetism and topology by charge carrier engineering in the intrinsic magnetic topological insulator $\text{MnBi}_2\text{Te}_4$ . Physical Review B, 2021, 104, .	3.2	15
72	Experimental evidence for dissipationless transport of the chiral edge state of the high-field Chern insulator in $\text{MnBi}_2\text{Te}_4$ nanodevices. Physical Review B, 2022, 105, .	3.2	15

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73	Structural transition and amorphization in compressed $\text{Sb}_2\text{O}_3$ . <i>Physical Review B</i> , 2015, 91, .	3.2	14
74	Nano-TiO <sub>2</sub> -Catalyzed Dehydrochlorination of 1,1,2,2-Tetrachloroethane: Roles of Crystalline Phase and Exposed Facets. <i>Environmental Science &amp; Technology</i> , 2018, 52, 4031-4039.	10.0	14
75	Repeated administrations of Mn <sub>3</sub> O <sub>4</sub> nanoparticles cause testis damage and fertility decrease through PPAR-signaling pathway. <i>Nanotoxicology</i> , 2020, 14, 326-340.	3.0	14
76	Magnetism-induced ideal Weyl state in bulk van der Waals crystal MnSb <sub>2</sub> Te <sub>4</sub> . <i>Applied Physics Letters</i> , 2021, 118, .	3.3	14
77	Tunable dynamical magnetoelectric effect in antiferromagnetic topological insulator MnBi <sub>2</sub> Te <sub>4</sub> films. <i>Npj Computational Materials</i> , 2021, 7, .	8.7	14
78	Comparative Study on the Flame Retardancy and Retarding Mechanism of Rare Earth (La, Ce, and Tj) ETQq0 0 0 rgBT/Overlock 10 Tf 50	3.5	14
79	Topological Phase Transition-Induced Triaxial Vector Magnetoresistance in (Bi <sub>1-x</sub> In <sub>x</sub> ) <sub>2</sub> Se <sub>3</sub> Nanodevices. <i>ACS Nano</i> , 2018, 12, 1537-1543.	14.6	13
80	The preparation of a composite flame retardant of layered double hydroxides and $\text{ZrO}_2$ -zirconium phosphate and its modification for epoxy resin. <i>Materials Today Communications</i> , 2021, 28, 102711.	1.9	12
81	Cell membrane-coated nanoparticles as peroxidase mimetics for cancer cell targeted detection and therapy. <i>Talanta</i> , 2022, 238, 123071.	5.5	12
82	Theoretical and experimental studies on the thermal decomposition and fire-extinguishing performance of cis-1,1,4,4,4-hexafluoro-2-butene. <i>International Journal of Quantum Chemistry</i> , 2020, 120, e26160.	2.0	11
83	Theoretical and experimental insights into the effects of halogen composition on the thermal decomposition details, as well as the fire-suppressing mechanism and performance of CF <sub>3</sub> CX <sub>2</sub> (X = F, Cl, Br). <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 11411-11423.	2.8	10
84	Anisotropic Scattering Caused by Apical Oxygen Vacancies in Thin Films of Overdoped High-Temperature Cuprate Superconductors. <i>Physical Review Letters</i> , 2022, 128, 137001.	7.8	10
85	hidden $\text{MoS}_2$ -symmetry-protected Dirac states in strain-induced monolayer. <i>Physical Review B</i> , 2019, 100, .	3.2	9
86	Large magnetoresistance in topological insulator candidate TaSe <sub>3</sub> . <i>AIP Advances</i> , 2020, 10, .	1.3	9
87	Nonlinear level attraction of cavity axion polariton in antiferromagnetic topological insulator. <i>Physical Review B</i> , 2021, 104, .	3.2	9
88	Direct Observation of Global Elastic Intervalley Scattering Induced by Impurities on Graphene. <i>Nano Letters</i> , 2021, 21, 8258-8265.	9.1	9
89	Toward Better Halon Substitutes: Theoretical and Experimental Studies on the Pyrolysis Mechanism and Fire-Suppressing Performance of C <sub>5</sub> F <sub>10</sub> O (Perfluoro-3-methyl-2-butanone). <i>ACS Sustainable Chemistry and Engineering</i> , 2021, 9, 1272-1285.	6.7	9
90	Advanced high-temperature (RT-1100°C) resistant adhesion technique for joining dissimilar ZrO <sub>2</sub> ceramic and TC4 superalloys based on an inorganic/organic hybrid adhesive. <i>Ceramics International</i> , 2022, 48, 3081-3095.	4.8	9

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91	In situ growth of SiC nanowires toughened preceramic resin-based adhesive for connecting Cf/C composites in extreme environments. <i>Ceramics International</i> , 2020, 46, 24860-24872.	4.8	7
92	Enhanced electrocatalytic performance of nickel diselenide grown on graphene toward the reduction of triiodide redox couples. <i>RSC Advances</i> , 2018, 8, 28131-28138.	3.6	6
93	Theoretical studies on the BC <sub>2</sub> N monolayers with promising photoelectronic characteristics and remarkable environmental stabilities. <i>International Journal of Quantum Chemistry</i> , 2020, 120, e26120.	2.0	6
94	Metal-Organic Framework-Derived Strategy for Improving Catalytic Performance of a Chromia-Based Catalyst in the Chlorine/Fluorine Exchange Reactions for Unsaturated Fluorocarbons. <i>ACS Omega</i> , 2020, 5, 13115-13122.	3.5	5
95	Graphene-wrapped CuInS <sub>2</sub> composites for efficient dye-sensitized solar cells. <i>Functional Materials Letters</i> , 2015, 08, 1550011.	1.2	4
96	Electrostatic and electrochemical charging mechanisms for electric-double-layer gating media based on a crystalline LaF <sub>3</sub> solid electrolyte. <i>APL Materials</i> , 2021, 9, .	5.1	2
97	Direct Visualization and Manipulation of Tunable Quantum Well State in Semiconducting Nb <sub>2</sub> SiTe <sub>4</sub> . <i>ACS Nano</i> , 2021, 15, 15850-15857.	14.6	2
98	Be <sub>3</sub> BN <sub>3</sub> monolayer with ultrawide band gap and promising stability for deep ultraviolet applications. <i>Computational Materials Science</i> , 2020, 177, 109552.	3.0	1
99	Coexistence of pressure-induced superconductivity and topological surface states in elementary substance Sb. <i>Physical Review Materials</i> , 2022, 6, .	2.4	1