

Zhisheng Zhao

List of Publications by Citations

Source: <https://exaly.com/author-pdf/1673193/zhisheng-zhao-publications-by-citations.pdf>

Version: 2024-04-17

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

142
papers

4,274
citations

25
h-index

62
g-index

151
ext. papers

5,229
ext. citations

7.2
avg, IF

5.38
L-index

#	Paper	IF	Citations
142	Microscopic theory of hardness and design of novel superhard crystals. <i>International Journal of Refractory Metals and Hard Materials</i> , 2012 , 33, 93-106	4.1	563
141	Ultrahard nanotwinned cubic boron nitride. <i>Nature</i> , 2013 , 493, 385-8	50.4	519
140	Nanotwinned diamond with unprecedented hardness and stability. <i>Nature</i> , 2014 , 510, 250-3	50.4	440
139	Flexible All-Solid-State Supercapacitors based on Liquid-Exfoliated Black-Phosphorus Nanoflakes. <i>Advanced Materials</i> , 2016 , 28, 3194-201	24	249
138	Novel superhard carbon: C-centered orthorhombic C8. <i>Physical Review Letters</i> , 2011 , 107, 215502	7.4	198
137	Te-Doped Black Phosphorus Field-Effect Transistors. <i>Advanced Materials</i> , 2016 , 28, 9408-9415	24	195
136	Tetragonal allotrope of group 14 elements. <i>Journal of the American Chemical Society</i> , 2012 , 134, 12362-5	16.4	146
135	Direct band gap silicon allotropes. <i>Journal of the American Chemical Society</i> , 2014 , 136, 9826-9	16.4	120
134	Three dimensional carbon-nanotube polymers. <i>ACS Nano</i> , 2011 , 5, 7226-34	16.7	94
133	Recent Advances in Superhard Materials. <i>Annual Review of Materials Research</i> , 2016 , 46, 383-406	12.8	80
132	Compressed glassy carbon: An ultrastrong and elastic interpenetrating graphene network. <i>Science Advances</i> , 2017 , 3, e1603213	14.3	77
131	Compressed carbon nanotubes: a family of new multifunctional carbon allotropes. <i>Scientific Reports</i> , 2013 , 3, 1331	4.9	73
130	Flexible Black-Phosphorus Nanoflake/Carbon Nanotube Composite Paper for High-Performance All-Solid-State Supercapacitors. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 44478-44484	9.5	69
129	Potential high-Tc superconductivity in CaYH ₁₂ under pressure. <i>Physical Review B</i> , 2019 , 99,	3.3	53
128	Exotic Cubic Carbon Allotropes. <i>Journal of Physical Chemistry C</i> , 2012 , 116, 24233-24238	3.8	48
127	First-principles study of O-BN: A sp ³ -bonding boron nitride allotrope. <i>Journal of Applied Physics</i> , 2012 , 112, 053518	2.5	44
126	Nanoarchitected materials composed of fullerene-like spheroids and disordered graphene layers with tunable mechanical properties. <i>Nature Communications</i> , 2015 , 6, 6212	17.4	43

125	Bulk Re ₂ C: Crystal Structure, Hardness, and Ultra-incompressibility. <i>Crystal Growth and Design</i> , 2010 , 10, 5024-5026	3.5	40
124	Lateral Bilayer MoS ₂ /WS ₂ Heterostructure Photodetectors with High Responsivity and Detectivity. <i>Advanced Optical Materials</i> , 2019 , 7, 1900815	8.1	39
123	Superhard F-carbon predicted by ab initio particle-swarm optimization methodology. <i>Journal of Physics Condensed Matter</i> , 2012 , 24, 165504	1.8	39
122	Semiconducting Superhard Ruthenium Monocarbide. <i>Journal of Physical Chemistry C</i> , 2010 , 114, 9961-9968	9.8	36
121	Prediction of a Three-Dimensional Conductive Superhard Material: Diamond-like BC ₂ . <i>Journal of Physical Chemistry C</i> , 2010 , 114, 22688-22690	3.8	31
120	A superhard sp ³ microporous carbon with direct bandgap. <i>Chemical Physics Letters</i> , 2017 , 689, 68-73	2.5	29
119	Atomically Resolving Polymorphs and Crystal Structures of In ₂ Se ₃ . <i>Chemistry of Materials</i> , 2019 , 31, 10143-10149	10.1	29
118	Properties of the exotic metastable ST12 germanium allotrope. <i>Nature Communications</i> , 2017 , 8, 13909	17.4	27
117	Is orthorhombic iron tetraboride superhard?. <i>Journal of Materiomics</i> , 2015 , 1, 45-51	6.7	23
116	Novel high-pressure phases of AlN: A first-principles study. <i>Computational Materials Science</i> , 2016 , 117, 496-501	3.2	23
115	Superhard superstrong carbon clathrate. <i>Carbon</i> , 2016 , 105, 151-155	10.4	23
114	High-pressure behaviors of carbon nanotubes. <i>Journal of Superhard Materials</i> , 2012 , 34, 371-385	0.9	22
113	Application of hard ceramic materials B ₄ C in energy storage: Design B ₄ C@C core-shell nanoparticles as electrodes for flexible all-solid-state micro-supercapacitors with ultrahigh cyclability. <i>Nano Energy</i> , 2020 , 75, 104947	17.1	21
112	Enhanced thermoelectric performance of Na-doped PbTe synthesized under high pressure. <i>Science China Materials</i> , 2018 , 61, 1218-1224	7.1	20
111	Prediction of a superconductive superhard material: Diamond-like BC ₇ . <i>Journal of Applied Physics</i> , 2011 , 110, 013501	2.5	20
110	Hard three-dimensional BN framework with one-dimensional metallicity. <i>Journal of Alloys and Compounds</i> , 2018 , 731, 364-368	5.7	19
109	Role of plastic deformation in tailoring ultrafine microstructure in nanotwinned diamond for enhanced hardness. <i>Science China Materials</i> , 2017 , 60, 178-185	7.1	18
108	Metastable phases, phase transformation and properties of ALAs based on first-principle study. <i>Computational Materials Science</i> , 2017 , 128, 337-342	3.2	17

107	Novel three-dimensional boron nitride allotropes from compressed nanotube bundles. <i>Journal of Materials Chemistry C</i> , 2014 , 2, 7022	7.1	17
106	Superhard sp ² -sp ³ hybrid carbon allotropes with tunable electronic properties. <i>AIP Advances</i> , 2016 , 6, 055020	1.5	17
105	Continuous strengthening in nanotwinned diamond. <i>Npj Computational Materials</i> , 2019 , 5,	10.9	17
104	Direct large-scale fabrication of C-encapsulated B ₄ C nanoparticles with tunable dielectric properties as excellent microwave absorbers. <i>Carbon</i> , 2019 , 148, 504-511	10.4	16
103	Predicting the ground-state structure of sodium boride. <i>Physical Review B</i> , 2018 , 97,	3.3	16
102	First-principles study of crystal structures and superconductivity of ternary YSH ₆ and LaSH ₆ at high pressures. <i>Physical Review B</i> , 2019 , 100,	3.3	16
101	Carbon coated face-centered cubic Ru-C nanoalloys. <i>Nanoscale</i> , 2014 , 6, 10370-6	7.7	16
100	Novel High-Pressure Phase of RhB: First-Principles Calculations. <i>Journal of Physical Chemistry C</i> , 2011 , 115, 19910-19915	3.8	16
99	Superhard conductive orthorhombic carbon polymorphs. <i>Carbon</i> , 2020 , 158, 546-552	10.4	16
98	Discovery of carbon-based strongest and hardest amorphous material.. <i>National Science Review</i> , 2022 , 9, nwab140	10.8	16
97	Mechanical properties of boron arsenide single crystal. <i>Applied Physics Letters</i> , 2019 , 114, 131903	3.4	15
96	Mechanical polishing of ultrahard nanotwinned diamond via transition into hard sp ² -sp ³ amorphous carbon. <i>Carbon</i> , 2020 , 161, 1-6	10.4	15
95	Enhanced Stability of Black Phosphorus Field-Effect Transistors via Hydrogen Treatment. <i>Advanced Electronic Materials</i> , 2018 , 4, 1700455	6.4	15
94	Superhard three-dimensional B ₃ N ₄ with two-dimensional metallicity. <i>Journal of Materials Chemistry C</i> , 2017 , 5, 5897-5901	7.1	14
93	Pressure-induced boron nitride nanotube derivatives: 3D metastable allotropes. <i>Journal of Applied Physics</i> , 2017 , 121, 165106	2.5	14
92	Photoluminescence and Raman Spectra Oscillations Induced by Laser Interference in Annealing-Created Monolayer WS ₂ Bubbles. <i>Advanced Optical Materials</i> , 2019 , 7, 1801373	8.1	14
91	Superhard and high-strength yne-diamond semimetals. <i>Diamond and Related Materials</i> , 2014 , 46, 15-20	3.5	14
90	Si ₁₀ : A sp ³ Silicon Allotrope with Spirally Connected Si ₅ Tetrahedrons. <i>Chemistry of Materials</i> , 2016 , 28, 6441-6445	9.6	14

89	Multithreaded conductive carbon: 1D conduction in 3D carbon. <i>Carbon</i> , 2017 , 115, 584-588	10.4	13
88	Enhanced thermoelectric performance of high pressure synthesized Sb-doped Mg ₂ Si. <i>Journal of Alloys and Compounds</i> , 2018 , 741, 1148-1152	5.7	13
87	An ab initio study on the transition paths from graphite to diamond under pressure. <i>Journal of Physics Condensed Matter</i> , 2013 , 25, 145402	1.8	13
86	Strain Release Induced Novel Fluorescence Variation in CVD-Grown Monolayer WS Crystals. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 34071-34077	9.5	13
85	Superhard orthorhombic phase of B ₂ CO compound. <i>Diamond and Related Materials</i> , 2017 , 73, 87-92	3.5	13
84	Interpenetrating graphene networks: Three-dimensional node-line semimetals with massive negative linear compressibilities. <i>Physical Review B</i> , 2016 , 94,	3.3	13
83	Preparation of pure β -phase titanium alloys with low moduli via high pressure solution treatment. <i>Journal of Alloys and Compounds</i> , 2017 , 695, 45-51	5.7	12
82	Superconducting ultraincompressible hard cubic Re ₄ C. <i>Computational Materials Science</i> , 2011 , 50, 1592-1596	3.9	12
81	Coexistence of multiple metastable polytypes in rhombohedral bismuth. <i>Scientific Reports</i> , 2016 , 6, 20337	3.9	12
80	Superhard sp ² -sp ³ hybridized BC ₂ N: A 3D crystal with 1D and 2D alternate metallicity. <i>Journal of Applied Physics</i> , 2017 , 121, 225103	2.5	11
79	High-pressure phases of boron arsenide with potential high thermal conductivity. <i>Physical Review B</i> , 2019 , 99,	3.3	11
78	Pressure-Induced Polymerization and Disproportionation of LiC Accompanied with Irreversible Conductivity Enhancement. <i>Journal of Physical Chemistry Letters</i> , 2017 , 8, 4241-4245	6.4	11
77	Universal phase transitions of B1-structured stoichiometric transition metal carbides. <i>Inorganic Chemistry</i> , 2011 , 50, 9266-72	5.1	11
76	Grain-boundary-rich polycrystalline monolayer WS film for attomolar-level Hg sensors. <i>Nature Communications</i> , 2021 , 12, 3870	17.4	11
75	New hexagonal boron nitride polytypes with triple-layer periodicity. <i>Journal of Applied Physics</i> , 2017 , 121, 165102	2.5	10
74	Investigation on the Stability of Derivative Melam from Melamine Pyrolysis under High Pressure. <i>Nanomaterials</i> , 2018 , 8,	5.4	10
73	Layered porous materials indium triphosphide InP ₃ for high-performance flexible all-solid-state supercapacitors. <i>Journal of Power Sources</i> , 2019 , 438, 227010	8.9	10
72	Tian et al. reply. <i>Nature</i> , 2013 , 502, E2-3	50.4	10

71	Mechanically ductile 3D sp ² microporous carbon. <i>Journal of Materials Science</i> , 2018 , 53, 4316-4322	4.3	10
70	Novel high-pressure phases of AlP from first principles. <i>Journal of Applied Physics</i> , 2016 , 119, 185101	2.5	10
69	One-step synthetic route and sintering for carbon-coated B4C nanoparticles. <i>Journal of Alloys and Compounds</i> , 2019 , 782, 263-269	5.7	10
68	Small onion-like BN leads to ultrafine-twinned cubic BN. <i>Science China Materials</i> , 2019 , 62, 1169-1176	7.1	9
67	Pentadiamond-like Metallic Hard Carbon Nitride. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 24978-24983	3.8	9
66	First principles studies of superhard BC6N phases with unexpected 1D metallicity. <i>Computational Materials Science</i> , 2018 , 148, 157-164	3.2	9
65	Enhanced thermoelectric performance of bismuth-doped magnesium silicide synthesized under high pressure. <i>Journal of Materials Science</i> , 2018 , 53, 9091-9098	4.3	9
64	Discovery of superhard materials via CALYPSO methodology. <i>Chinese Physics B</i> , 2019 , 28, 106104	1.2	9
63	Grain wall boundaries in centimeter-scale continuous monolayer WS film grown by chemical vapor deposition. <i>Nanotechnology</i> , 2018 , 29, 255705	3.4	8
62	High-pressure phases of NaAlH ₄ from first principles. <i>Applied Physics Letters</i> , 2012 , 100, 061905	3.4	8
61	Porous bismuth antimony telluride alloys with excellent thermoelectric and mechanical properties. <i>Journal of Materials Chemistry A</i> , 2021 , 9, 4990-4999	13	8
60	Preparation of dense B4C ceramics by spark plasma sintering of high-purity nanoparticles. <i>Journal of the European Ceramic Society</i> , 2021 , 41, 3929-3936	6	8
59	Effect of layer and stacking sequence in simultaneously grown 2H and 3R WS atomic layers. <i>Nanotechnology</i> , 2019 , 30, 345203	3.4	7
58	One-Step Growth of Spatially Graded MoW S Monolayers with a Wide Span in Composition (from x = 0 to 1) at a Large Scale. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 20979-20986	9.5	7
57	First-principles studies of superhard BC8N structures. <i>Journal of Applied Physics</i> , 2019 , 125, 175108	2.5	7
56	Accelerated Degradation of CrCl ₃ Nanoflakes Induced by Metal Electrodes: Implications for Remediation in Nanodevice Fabrication. <i>ACS Applied Nano Materials</i> , 2019 , 2, 1597-1603	5.6	7
55	Modifying Carbon Nitride through Extreme Phosphorus Substitution 2019 , 1, 14-19		7
54	Prediction of a conducting hard ductile cubic IrC. <i>Physica Status Solidi - Rapid Research Letters</i> , 2010 , 4, 230-232	2.5	7

53	Narrow-gap, semiconducting, superhard amorphous carbon with high toughness, derived from C60 fullerene. <i>Cell Reports Physical Science</i> , 2021 , 2, 100575	6.1	7
52	Low-energy 3D sp carbons with versatile properties beyond graphite and graphene. <i>Dalton Transactions</i> , 2018 , 47, 6233-6239	4.3	6
51	Novel carbon polymorphs with cumulative double bonds in three-dimensional sp-sp hybrid framework. <i>Physical Chemistry Chemical Physics</i> , 2018 , 20, 15022-15029	3.6	6
50	Properties of CaB6 single crystals synthesized under high pressure and temperature. <i>Science China: Physics, Mechanics and Astronomy</i> , 2011 , 54, 1791-1795	3.6	6
49	Proximity Enhanced Hydrogen Evolution Reactivity of Substitutional Doped Monolayer WS. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 19406-19413	9.5	6
48	Design of a Class of New sp ² & sp ³ Carbons Constructed by Graphite and Diamond Building Blocks. <i>Chinese Physics Letters</i> , 2021 , 38, 028102	1.8	6
47	Universal Phase Transitions of AlB-Type Transition-Metal Diborides. <i>ACS Omega</i> , 2020 , 5, 4620-4625	3.9	5
46	Two-dimensional boron on Pb (1 1 0) surface. <i>FlatChem</i> , 2018 , 7, 34-41	5.1	5
45	On implementing nondestructive triplet Toffoli gate with entanglement swapping operations via the GHZ state analysis. <i>Quantum Information Processing</i> , 2014 , 13, 2039-2047	1.6	5
44	Strengthening in high-pressure quenched Zr. <i>High Pressure Research</i> , 2017 , 37, 278-286	1.6	5
43	Prediction of Li2B novel phases and superconductivity under varying pressures. <i>Computational Materials Science</i> , 2019 , 158, 255-259	3.2	5
42	Strengthening mechanism of β Zr. <i>Computational Materials Science</i> , 2017 , 135, 134-140	3.2	4
41	In-Situ Observation of the Formation of Fibrous Sulfur under High Pressure. <i>Journal of Physical Chemistry C</i> , 2019 , 123, 14696-14700	3.8	4
40	Ab initio study of pressure-induced metallization and superconductivity in orthorhombic LiBH2 phase under ultra-high pressure. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2020 , 384, 126525	2.3	4
39	Influence of van der Waals epitaxy on phase transformation behaviors in 2D heterostructure. <i>Applied Physics Letters</i> , 2020 , 116, 021602	3.4	4
38	Metastable C-centered orthorhombic Si8 and Ge8. <i>Journal of Physics Condensed Matter</i> , 2012 , 24, 405803	1.8	4
37	Heat-treated glassy carbon under pressure exhibiting superior hardness, strength and elasticity. <i>Journal of Materiomics</i> , 2021 , 7, 177-184	6.7	4
36	High-Performance Broadband Photodetectors of Heterogeneous 2D Inorganic Molecular Sb2O3/Monolayer MoS2 Crystals Grown via Chemical Vapor Deposition. <i>Advanced Optical Materials</i> , 2020 , 8, 2000168	8.1	4

35	Synthesis of twin-structured nanodiamond particles. <i>AIP Advances</i> , 2020 , 10, 015240	1.5	3
34	Tribological properties of oleylamine-modified nickel nanoparticles as lubricating oil additive. <i>Materials Research Express</i> , 2019 , 6, 105037	1.7	3
33	Three metallic BN polymorphs: 1D multi-threaded conduction in a 3D network. <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 489-496	3.6	3
32	The rise of plastic deformation in boron nitride ceramics. <i>Science China Materials</i> , 2021 , 64, 46-51	7.1	3
31	Anomalous melting behavior of polycrystalline bismuth quenched at high temperature and high pressure. <i>Materials Letters</i> , 2016 , 168, 36-39	3.3	2
30	A novel layer-structured PtN ₂ : First-principles calculations. <i>Journal of Superhard Materials</i> , 2013 , 35, 339-349	3.9	2
29	POLARIZATION ENTANGLEMENT CONCENTRATIONS WITH LESS-HYPERENTANGLED PHOTON PAIRS IN MULTIPLE DEGREES OF FREEDOM. <i>International Journal of Quantum Information</i> , 2012 , 10, 1250075	0.8	2
28	Superconductivity in graphite-diamond hybrid. <i>Materials Today Physics</i> , 2022 , 23, 100630	8	2
27	Potential high-T superconductivity in ZrB ₂ polymorph under pressure. <i>Computational Materials Science</i> , 2020 , 176, 109517	3.2	2
26	Restacked melon as highly-efficient photocatalyst. <i>Nano Energy</i> , 2020 , 77, 105124	17.1	2
25	Strengthening effects of penetrating twin boundary and phase boundary in polycrystalline diamond. <i>Diamond and Related Materials</i> , 2021 , 117, 108436	3.5	2
24	Nanocrystalline high-entropy carbide ceramics with improved mechanical properties. <i>Journal of the American Ceramic Society</i> , 2022 , 105, 606	3.8	2
23	High-sensitivity and versatile plasmonic biosensor based on grain boundaries in polycrystalline 1L WS films. <i>Biosensors and Bioelectronics</i> , 2021 , 194, 113596	11.8	2
22	Extraordinary high-temperature mechanical properties in binder-free nanopolycrystalline WC ceramic. <i>Journal of Materials Science and Technology</i> , 2022 , 97, 169-175	9.1	2
21	Controllable growth of multilayered XSe ₂ (X=W and Mo) for nonlinear optical and optoelectronic applications. <i>2D Materials</i> ,	5.9	1
20	Extreme mechanical anisotropy in diamond with preferentially oriented nanotwin bundles. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021 , 118,	11.5	1
19	High-Pressure Synthesis of cBN Nanoparticles with High-Density Nanotwin Substructures. <i>ACS Omega</i> , 2020 , 5, 650-654	3.9	1
18	Rapid fabrication of hierarchical porous SiC/C hybrid structure: toward high-performance capacitive energy storage with ultrahigh cyclability. <i>Journal of Materials Science</i> , 2021 , 56, 16068-16081	4.3	1

17	Strong amorphous carbon prepared by spark-plasma sintering C60. <i>Journal of the American Ceramic Society</i> , 2021 , 104, 1655-1660	3.8	1
16	Design and theoretical study of novel multifunctional 3D-BC ₂ N polymorphs. <i>Chemical Physics Letters</i> , 2021 , 774, 138610	2.5	1
15	In Situ Grown Ultrafine RuO Nanoparticles on GeP Nanosheets as the Electrode Material for Flexible Planar Micro-Supercapacitors with High Specific Capacitance and Cyclability. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 47560-47571	9.5	1
14	Structural diversity, large interlayer spacing and switchable electronic properties of graphitic systems. <i>Journal of Materials Science</i> , 2021 , 56, 5509-5519	4.3	1
13	Structural Determination of a Graphite/Hexagonal Boron Nitride Superlattice Observed in the Experiment. <i>Inorganic Chemistry</i> , 2021 , 60, 2598-2603	5.1	1
12	Mechanochemically assisted synthesis of titanium carbonitride from metal and organic precursor. <i>Journal of the American Ceramic Society</i> , 2020 , 103, 6112-6119	3.8	0
11	Hard and tough ultrafine-grained B ₄ C-cBN composites prepared by high-pressure sintering. <i>Journal of the European Ceramic Society</i> , 2022 , 42, 2015-2020	6	0
10	Ultrasensitive biochemical sensors based on controllably grown films of high-density edge-rich multilayer WS ₂ islands. <i>Sensors and Actuators B: Chemical</i> , 2021 , 131081	8.5	0
9	Superhard sp-sp hybridized BCN with 2D metallicity. <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 22918-22922	3.6	0
8	Design of a Series of Metallic BN with Tunable Mechanical Properties. <i>Journal of Physical Chemistry Letters</i> , 2021 , 12, 1979-1984	6.4	0
7	Columbite-rich multiphase TiO ₂ nanoceramic with superior mechanical and dielectric properties. <i>Journal of the European Ceramic Society</i> , 2021 , 41, 4951-4957	6	0
6	Novel Boron Nitride Polymorphs with Graphite-Diamond Hybrid Structure. <i>Chinese Physics Letters</i> , 2022 , 39, 036301	1.8	0
5	Heterogeneous Diamond-cBN Composites with Superb Toughness and Hardness. <i>Nano Letters</i> ,	11.5	0
4	Electronic structure and superconductivity in hexagonal Li ₃ B ₂ and Li ₂ B ₂ H phases under pressure. <i>Journal of Applied Physics</i> , 2019 , 125, 223902	2.5	
3	Deterministic Polarization Entanglement Purification of Cluster State in Multiple Degrees of Freedom. <i>International Journal of Theoretical Physics</i> , 2015 , 54, 1184-1192	1.1	
2	Superhard and superconductive nondiamond-like BC structure. <i>Diamond and Related Materials</i> , 2020 , 110, 108142	3.5	
1	3D hybrid carbon composed of multigraphene bridged by carbon chains. <i>AIP Advances</i> , 2018 , 8, 015019	1.5	