Xinyu Zhang

List of Publications by Year in descending order

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Version: 2024-02-01

83 papers	4,977 citations	117453 34 h-index	95083 68 g-index
83 all docs	83 docs citations	83 times ranked	5152 citing authors

#	Article	IF	Citations
1	Effect of aspect ratio and surface defects on the photocatalytic activity of ZnO nanorods. Scientific Reports, 2014, 4, 4596.	1.6	761
2	Strategies of regulating Zn²⁺solvation structures for dendrite-free and side reaction-suppressed zinc-ion batteries. Energy and Environmental Science, 2022, 15, 499-528.	15.6	313
3	Manipulating Crystallographic Orientation of Zinc Deposition for Dendriteâ€free Zinc Ion Batteries. Advanced Energy Materials, 2021, 11, 2101299.	10.2	304
4	Carbon-Doped ZnO Nanostructures: Facile Synthesis and Visible Light Photocatalytic Applications. Journal of Physical Chemistry C, 2015, 119, 20544-20554.	1.5	193
5	Inhibition of Manganese Dissolution in Mn₂O₃ Cathode with Controllable Ni²⁺ Incorporation for Highâ€Performance Zinc Ion Battery. Advanced Functional Materials, 2021, 31, 2009412.	7.8	176
6	Oxygen defect enriched (NH4)2V10O25Â·8H2O nanosheets for superior aqueous zincâ€ion batteries. Nano Energy, 2021, 84, 105876.	8.2	172
7	Modulating Zn deposition via ceramic-cellulose separator with interfacial polarization effect for durable zinc anode. Nano Energy, 2021, 89, 106322.	8.2	162
8	Structural Transformation of MXene (V₂C, Cr₂C, and Ta₂C) with O Groups during Lithiation: A First-Principles Investigation. ACS Applied Materials & Interfaces, 2016, 8, 74-81.	4.0	159
9	A universal and facile approach to suppress dendrite formation for a Zn and Li metal anode. Journal of Materials Chemistry A, 2020, 8, 9331-9344.	5.2	147
10	Vanadium-Based Oxide on Two-Dimensional Vanadium Carbide MXene (V₂O_x@V₂CT_x) as Cathode for Rechargeable Aqueous Zinc-Ion Batteries. ACS Applied Energy Materials, 2020, 3, 4677-4689.	2.5	138
11	NiMn Layered Double Hydroxide Nanosheets In-situ Anchored on Ti₃C₂ MXene via Chemical Bonds for Superior Supercapacitors. ACS Applied Energy Materials, 2020, 3, 5949-5964.	2.5	131
12	Heterostructured dâ€Ti₃C₂/TiO₂gâ€C₃N₄ Nanocomposites with Enhanced Visibleâ€Light Photocatalytic Hydrogen Production Activity. ChemSusChem, 2018, 11, 4226-4236.	3.6	120
13	NiCo-LDH/Ti3C2 MXene hybrid materials for lithium ion battery with high-rate capability and long cycle life. Journal of Energy Chemistry, 2020, 50, 143-153.	7.1	118
14	TMN4 complex embedded graphene as bifunctional electrocatalysts for high efficiency OER/ORR. Journal of Energy Chemistry, 2021, 55, 437-443.	7.1	117
15	Elimination of Zinc Dendrites by Graphene Oxide Electrolyte Additive for Zinc-Ion Batteries. ACS Applied Energy Materials, 2021, 4, 4602-4609.	2.5	91
16	Regulating solvation structure to stabilize zinc anode by fastening the free water molecules with an inorganic colloidal electrolyte. Nano Energy, 2022, 93, 106839.	8.2	88
17	Stabilizing zinc anode via a chelation and desolvation electrolyte additive. , 2022, 1, 100007.		83
18	WS₂ and Câ€TiO₂ Nanorods Acting as Effective Charge Separators on gâ€C₃N₄ to Boost Visibleâ€Light Activated Hydrogen Production from Seawater. ChemSusChem, 2018, 11, 4077-4085.	3.6	77

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19	Mechanochemical reactions of MnO2 and graphite nanosheets as a durable zinc ion battery cathode. Applied Surface Science, 2020, 534, 147630.	3.1	77
20	Constructing MoS2/g-C3N4 heterojunction with enhanced oxygen evolution reaction activity: A theoretical insight. Applied Surface Science, 2020, 510, 145489.	3.1	76
21	Revealing Ni-based layered double hydroxides as high-efficiency electrocatalysts for the oxygen evolution reaction: a DFT study. Journal of Materials Chemistry A, 2019, 7, 23091-23097.	5.2	75
22	Facile Electrodeposition of Niâ€“Cuâ€“P Dendrite Nanotube Films with Enhanced Hydrogen Evolution Reaction Activity and Durability. ACS Applied Materials & Interfaces, 2018, 10, 35224-35233.	4.0	74
23	Two Birds with One Stone: Boosting Zinc-Ion Insertion/Extraction Kinetics and Suppressing Vanadium Dissolution of V₂O₅ via La³⁺ Incorporation Enable Advanced Zinc-Ion Batteries. ACS Applied Materials & Interfaces, 2021, 13, 38416-38424.	4.0	70
24	High-throughput identification of high activity and selectivity transition metal single-atom catalysts for nitrogen reduction. Nano Energy, 2021, 80, 105527.	8.2	66
25	Vanadium Diboride (VB₂) Synthesized at High Pressure: Elastic, Mechanical, Electronic, and Magnetic Properties and Thermal Stability. Inorganic Chemistry, 2018, 57, 1096-1105.	1.9	64
26	Structural, elastic, and thermal properties of Laves phase ZrV2 under pressure. Journal of Applied Physics, 2011, 109, .	1.1	59
27	Insights into the Li+ storage mechanism of TiC@C-TiO2 core-shell nanostructures as high performance anodes. Nano Energy, 2018, 50, 25-34.	8.2	53
28	First-principles structural design of superhard material of ZrB4. Physical Chemistry Chemical Physics, 2013, 15, 20894.	1.3	52
29	Enhancement of Hydrogen Evolution Reaction Performance of Graphitic Carbon Nitride with Incorporated Nickel Boride. ACS Sustainable Chemistry and Engineering, 2018, 6, 16198-16204.	3.2	50
30	Multihierarchical Structure of Hybridized Phosphates Anchored on Reduced Graphene Oxide for High Power Hybrid Energy Storage Devices. ACS Sustainable Chemistry and Engineering, 2017, 5, 5679-5685.	3.2	49
31	Ultrastiff carbides uncovered in first principles. Applied Physics Letters, 2007, 91, 061905.	1.5	45
32	Ti₃C₂ MXene-Encapsulated NiFe-LDH Hybrid Anode for High-Performance Lithium-Ion Batteries and Capacitors. ACS Applied Energy Materials, 2021, 4, 7821-7828.	2.5	44
33	First principle study of elastic and thermodynamic properties of FeB4 under high pressure. Journal of Applied Physics, 2013, 114, .	1.1	42
34	NiMn-Layered Double Hydroxides Chemically Anchored on Ti₃C₂ MXene for Superior Lithium Ion Storage. ACS Applied Energy Materials, 2020, 3, 11119-11130.	2.5	38
35	Strongly coupled tungsten oxide/carbide heterogeneous hybrid for ultrastable aqueous rockingâ€chair zinc-ion batteries. Chemical Engineering Journal, 2021, 426, 131893.	6.6	38
36	Ni-Co Double Hydroxide Grown on Graphene Oxide for Enhancing Lithium Ion Storage. Energy & Fuels, 2020, 34, 13032-13037.	2.5	32

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37	Eco-Friendly Conductive Cotton-Based Textile Electrodes Using Silver- and Carbon-Coated Fabrics for Advanced Flexible Supercapacitors. Energy & Fuels, 2020, 34, 8977-8986.	2.5	30
38	Revealing the impacts of oxygen defects on Zn2+ storage performance in V2O5. Materials Today Energy, 2021, 21, 100824.	2.5	29
39	Facile synthesis of a ZnOâ€“BiOI pâ€“n nano-heterojunction with excellent visible-light photocatalytic activity. Beilstein Journal of Nanotechnology, 2018, 9, 789-800.	1.5	27
40	Co-electrodeposition of hard Ni-W/diamond nanocomposite coatings. Scientific Reports, 2016, 6, 22285.	1.6	25
41	Potential superhard cubic spinel CSi2N4: First-principles investigations. Journal of Applied Physics, 2008, 103, .	1.1	24
42	Strain stiffening, high load-invariant hardness, and electronic anomalies of boron phosphide under pressure. Physical Review B, 2020, 101, .	1.1	24
43	Spatial Separation of Charge Carriers via Heterogeneous Structural Defects in Graphitic Carbon Nitride for Photocatalytic Hydrogen Evolution. ACS Applied Nano Materials, 2020, 3, 4428-4436.	2.4	24
44	Ni₃S₂ Nanoparticles Anchored on d-Ti₃C₂ Nanosheets with Enhanced Sodium Storage. ACS Applied Energy Materials, 2021, 4, 2593-2599.	2.5	22
45	A self-sacrifice template strategy to synthesize Co-LDH/MXene for lithium-ion batteries. Chemical Communications, 2021, 57, 11378-11381.	2.2	22
46	Study on the correlation between microstructures and corrosion properties of novel ZrTiAlV alloys. Materials Science and Engineering C, 2019, 101, 92-102.	3.8	21
47	Flower-like W/WO₃as a novel cathode for aqueous zinc-ion batteries. Chemical Communications, 2021, 57, 7549-7552.	2.2	21
48	Boosting Zn²⁺ Diffusion via Tunnel-Type Hydrogen Vanadium Bronze for High-Performance Zinc Ion Batteries. ACS Applied Materials & Interfaces, 2022, 14, 7909-7916.	4.0	21
49	High-throughput screening of single metal atom anchored on N-doped boron phosphide for N₂ reduction. Nanoscale, 2021, 13, 13437-13450.	2.8	18
50	First principle study of elastic and thermodynamic properties of ZrZn2 and HfZn2 under high pressure. Journal of Applied Physics, 2014, 115, .	1.1	17
51	Disorder-activated Raman spectra of cubic rocksalt-type Li(1â^'x)/2Ga(1â^'x)/2MxO (Mâ€‰=â€‰Mg, Zn) alloys. Journal of Applied Physics, 2012, 112, .	1.1	16
52	Pressure-induced zigzag phosphorus chain and superconductivity in boron monophosphide. Scientific Reports, 2015, 5, 8761.	1.6	16
53	Taming the challenges of activity and selectivity in catalysts for electrochemical N2 fixation via single metal atom supported on WS2. Applied Surface Science, 2022, 571, 151357.	3.1	16
54	Modification Strategies of Layered Double Hydroxides for Superior Supercapacitors. Advanced Energy and Sustainability Research, 2022, 3, .	2.8	16

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55	Polymorphism in glassy silicon: Inherited from liquid-liquid phase transition in supercooled liquid. Scientific Reports, 2015, 5, 8590.	1.6	15
56	Elastic, magnetic and electronic properties of iridium phosphide Ir2P. Scientific Reports, 2016, 6, 21787.	1.6	15
57	Supreme shear modulus predicted in the monocarbide system: the Re_x W_{1â€“x}C alloy. Physica Status Solidi - Rapid Research Letters, 2009, 3, 299-301.	1.2	13
58	Deformationâ€induced bonding evolution of iron tetraboride and its electronic origin. Physica Status Solidi - Rapid Research Letters, 2013, 7, 1022-1025.	1.2	13
59	First-principles study of ZrC x N1â^'x alloys with electron concentration modulation. Journal of Materials Science, 2013, 48, 7743-7748.	1.7	12
60	Theoretical prediction of structural stability, electronic and elastic properties of ZrSi₂ under pressure. RSC Advances, 2015, 5, 36779-36786.	1.7	12
61	The high concentration and uniform distribution of diamond particles in Ni-diamond composite coatings by sediment co-deposition. Surface and Interface Analysis, 2015, 47, 331-339.	0.8	11
62	Effect of Ag+ and PO43^{â^'} ratios on the microstructure and photocatalytic activity of Ag3PO4. Functional Materials Letters, 2016, 09, 1650063.	0.7	11
63	Rational design and synthesis of SiC/TiC@SiO_x/TiO₂ porous coreâ€“shell nanostructure with excellent Li-ion storage performance. Chemical Communications, 2018, 54, 12622-12625.	2.2	11
64	Atomic packing and short-to-medium range order evolution of Zr-Pd metallic glass. Science Bulletin, 2011, 56, 3908-3911.	1.7	10
65	Pressure-induced pseudoatom bonding collapse and isosymmetric phase transition in Zr2Cu: First-principles predictions. Journal of Chemical Physics, 2013, 139, 234504.	1.2	10
66	Anisotropy in elasticity and thermodynamic properties of zirconium tetraboride under high pressure. RSC Advances, 2015, 5, 77399-77406.	1.7	10
67	First-principles investigations on thermodynamic properties of the ordered and disordered Si0.5Ge0.5 alloys. Applied Physics A: Materials Science and Processing, 2014, 115, 667-670.	1.1	9
68	Atomic diffusion mediated by vacancy defects in L12-Zr3Al: A first-principles study. Journal of Alloys and Compounds, 2020, 821, 153223.	2.8	9
69	Architecting Nbâ€TiO_{2â^'}_x/(Ti_{0.9}Nb_{0.1})₃C₂T_x MXene Nanohybrid Anode for Highâ€Performance Lithiumâ€Ion Batteries. Advanced Materials Interfaces, 2022, 9, .	1.9	8
70	The fluidity and molding ability of glass-forming Zr-based alloy melt. Science in China Series G: Physics, Mechanics and Astronomy, 2008, 51, 438-444.	0.2	7
71	Strength and bonding nature of superhard Z-carbon from first-principle study. AIP Advances, 2012, 2, .	0.6	7
72	SiC x /TiC x Nanostructured Material from Ti 3 SiC 2 for High Rate Performance of Lithium Storage. ChemistrySelect, 2019, 4, 7766-7772.	0.7	7

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73	Vacancy mediated alloying strengthening effects on Al/Al3Zr interface and stabilization of L12-Al3Zr: A first-principles study. Journal of Alloys and Compounds, 2020, 825, 153825.	2.8	7
74	In situ high pressure synthesis of cBN-based composites. Functional Materials Letters, 2014, 07, 1450040.	0.7	6
75	Rational design of fly ash-based composites for sustainable lithium-ion battery anodes. Electrochimica Acta, 2022, 410, 140035.	2.6	6
76	Effect of Ag addition on the thermal stability and glass-forming ability of Zr35Ti30Cu7.5Be27.5 bulk metallic glass. Science Bulletin, 2012, 57, 1219-1222.	1.7	5
77	Effect of grain size on Î±-variant selection in a ZrTiAlV alloy. Science China Technological Sciences, 2019, 62, 982-988.	2.0	5
78	Different topological insulating behavior in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î²</mml:mi></mml:math>-GaS and GaS-II under uniaxial tension. Physical Review B, 2013, 88, .	1.1	4
79	Mechanical-assisted preparation and photocatalytic properties of almost-visible light-driven ZnO/ZnFe₂O₄ nanocomposites. Materials Research Society Symposia Proceedings, 2014, 1641, 1.	0.1	3
80	Influence of Co²⁺ Ions on the Microstructure and Mechanical Properties of Niâ€“W/Diamond Nano-Composite Coatings. Journal of Nanoscience and Nanotechnology, 2019, 19, 4083-4089.	0.9	3
81	High-Performance and Binder-Free Anodized ZrTiAlV Alloy Anode Material for Lithium Ion Microbatteires. ACS Applied Energy Materials, 2020, 3, 11326-11332.	2.5	3
82	Phase Transition of Shock-Loaded ZrTiCuNiBe Bulk Metallic Glass under Continuous Heating. Materials Transactions, 2008, 49, 869-873.	0.4	1
83	Novel Anisotropic Ductility of a High Strength Annealed Ti-20Zr-6.5Al-4V Alloy. Materials, 2018, 11, 529.	1.3	1