Wenqing Zhang

List of Publications by Year
in descending order

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78 papers	7,457 citations	126907 33 h-index	66911 78 g-index
80 all docs	80 docs citations	80 times ranked	6572 citing authors

#	Article	IF	Citations
1	Flexible Ti₃C₂T_x/Nanocellulose Hybrid Film as a Stable Zn-free Anode for Aqueous Hybrid Znâ€“Li Batteries. ACS Applied Materials & Interfaces, 2022, 14, 6876-6884.	8.0	16
2	Simplified Synthesis of Fluoride-Free Ti₃C₂T_x via Electrochemical Etching toward High-Performance Electrochemical Capacitors. ACS Nano, 2022, 16, 2461-2470.	14.6	99
3	Half-Heusler-like compounds with wide continuous compositions and tunable p- to n-type semiconducting thermoelectrics. Nature Communications, 2022, 13, 35.	12.8	20
4	Discovery of a Slaterâ€“Pauling Semiconductor ZrRu_{1.5}Sb with Promising Thermoelectric Properties. Advanced Functional Materials, 2022, 32, .	14.9	12
5	Liquid-phase sintering enabling mixed ionic-electronic interphases and free-standing composite cathode architecture toward high energy solid-state battery. Nano Research, 2022, 15, 6156-6167.	10.4	10
6	Giant Narrow-Band Optical Absorption and Distinctive Excitonic Structures of Monolayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:msub><mml:mrow><mml:mrow><mml:mi mathvariant="normal">C</mml:mi></mml:mrow></mml:mrow><mml:mn>3</mml:mn></mml:msub><mml:mrow><mml:mi mathvariant="normal">N</mml:mi></mml:mrow></mml:math> and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:msub><mml:m	3.8	11
7	Large Transverse and Longitudinal Magnetoâ€Thermoelectric Effect in Polycrystalline Nodalâ€Line Semimetal Mg₃Bi₂. Advanced Materials, 2022, 34, e2200931.	21.0	28
8	Unraveling the relationships between chemical bonding and thermoelectric properties: n-type ABO₃ perovskites. Journal of Materials Chemistry A, 2022, 10, 11039-11045.	10.3	10
9	Designing vacancy-filled Heusler thermoelectric semiconductors by the Slater-Pauling rule. Materials Today Energy, 2022, 27, 101035.	4.7	8
10	Ag rearrangement induced metal-insulator phase transition in thermoelectric MgAgSb. Materials Today Physics, 2022, 25, 100702.	6.0	0
11	Prediction of protected band edge states and dielectric tunable quasiparticle and excitonic properties of monolayer MoSi2N4. Npj Computational Materials, 2022, 8, .	8.7	19
12	Tuning colour centres at a twisted hexagonal boron nitride interface. Nature Materials, 2022, 21, 896-902.	27.5	31
13	Solidâ€State Janus Nanoprecipitation Enables Amorphousâ€Like Heat Conduction in Crystalline Mg₃Sb₂â€Based Thermoelectric Materials. Advanced Science, 2022, 9, .	11.2	12
14	TransOpt. A code to solve electrical transport properties of semiconductors in constant electronâ€“phonon coupling approximation. Computational Materials Science, 2021, 186, 110074.	3.0	55
15	Boosting Transport Kinetics of Ions and Electrons Simultaneously by Ti3C2Tx (MXene) Addition for Enhanced Electrochromic Performance. Nano-Micro Letters, 2021, 13, 20.	27.0	37
16	Electric Polarization Switching on an Atomically Thin Metallic Oxide. Nano Letters, 2021, 21, 144-150.	9.1	19
17	Temperature-Dependent Band Renormalization in CoSb₃ Skutterudites Due to Sb-Ring-Related Vibrations. Chemistry of Materials, 2021, 33, 1046-1052.	6.7	16
18	All solid thick oxide cathodes based on low temperature sintering for high energy solid batteries. Energy and Environmental Science, 2021, 14, 5044-5056.	30.8	41

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19	A general strategy for high-throughput experimental screening of promising bulk thermoelectric materials. Science China Materials, 2021, 64, 1751-1760.	6.3	8
20	Interfacial superstructures and chemical bonding transitions at metal-ceramic interfaces. Science Advances, 2021, 7, .	10.3	24
21	Enhanced Hardness in Transition-Metal Monocarbides via Optimal Occupancy of Bonding Orbitals. ACS Applied Materials & Interfaces, 2021, 13, 14365-14376.	8.0	11
22	Generic Seebeck effect from spin entropy. Innovation(China), 2021, 2, 100101.	9.1	20
23	Regulating Excitonâ€“Phonon Coupling to Achieve a Nearâ€Unity Photoluminescence Quantum Yield in Oneâ€Dimensional Hybrid Metal Halides. Advanced Science, 2021, 8, e2100786.	11.2	61
24	Prediction and Classification of Formation Energies of Binary Compounds by Machine Learning: An Approach without Crystal Structure Information. ACS Omega, 2021, 6, 14533-14541.	3.5	13
25	Crystal structures and formation mechanisms of boron-rich tungsten borides. Physical Review B, 2021, 104, .	3.2	10
26	Materials informatics platform with three dimensional structures, workflow and thermoelectric applications. Scientific Data, 2021, 8, 236.	5.3	27
27	Dual adaptive sampling and machine learning interatomic potentials for modeling materials with chemical bond hierarchy. Physical Review B, 2021, 104, .	3.2	9
28	Temperatureâ€dependent structural fluctuation and its effect on the electronic structure and charge transport in hybrid perovskite <scp>CH₃NH₃PbI₃</scp>. Journal of Computational Chemistry, 2021, 42, 2213-2220.	3.3	12
29	The variation of intrinsic defects in XTe (X = Ge, Sn, and Pb) induced by the energy positions of valence band maxima. Journal of Materials Chemistry C, 2021, 9, 5765-5770.	5.5	19
30	Sublattice Short-Range Order and Modified Electronic Structure in Defective Half-Heusler Nb_{0.8}CoSb. Journal of Physical Chemistry C, 2021, 125, 1125-1133.	3.1	13
31	5-IP7 is a GPCR messenger mediating neural control of synaptotagmin-dependent insulin exocytosis and glucose homeostasis. Nature Metabolism, 2021, 3, 1400-1414.	11.9	13
32	High Thermoelectric Performance through Crystal Symmetry Enhancement in Triply Doped Diamondoid Compound Cu₂SnSe₃. Advanced Energy Materials, 2021, 11, 2100661.	19.5	39
33	A highly asymmetric interfacial superstructure in WC: expanding the classic grain boundary segregation and new complexion theories. Materials Horizons, 2020, 7, 173-180.	12.2	26
34	Thermal transport in amorphous small organic materials: a mechanistic study. Physical Chemistry Chemical Physics, 2020, 22, 3058-3065.	2.8	16
35	Tetrahedral Distortion and Thermoelectric Performance of the Ag-Substituted CuInTe₂ Chalcopyrite Compound. ACS Applied Energy Materials, 2020, 3, 11015-11023.	5.1	16
36	Isosymmetric phase transitions, ultrahigh ductility, and topological nodal lines in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Î±</mml:mi><mml:mo>â^’</mml:mo><mml:mi mathvariant="normal">A</mml:mi><mml:msub><mml:mi mathvariant="normal">g</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mi mathvariant="normal">S</mml:mi></mml:mrow></mml:math>. Physical Review B, 2020, 102, .	3.2	4

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37	Theory for the Charge-Density-Wave Mechanism of 3D Quantum Hall Effect. Physical Review Letters, 2020, 125, 206601.	7.8	50
38	Active learning for the power factor prediction in diamond-like thermoelectric materials. Npj Computational Materials, 2020, 6, .	8.7	43
39	Defect-mediated Rashba engineering for optimizing electrical transport in thermoelectric BiTeI. Npj Computational Materials, 2020, 6, .	8.7	24
40	Remarkable Band-Gap Renormalization via Dimensionality of the Layered Material <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:msub><mml:mrow><mml:mrow><mml:mi mathvariant="normal">C</mml:mi></mml:mrow></mml:mrow><mml:mn>3</mml:mn></mml:msub><mml:mrow><mml:mrow><mml:m mathvariant="normal">B</mml:mi></mml:mrow></mml:mrow></mml:math>. Physical Review Applied, 2020, 14, .	3.8	9
41	Localization in the SCAN meta-generalized gradient approximation functional leading to broken symmetry ground states for graphene and benzene. Physical Chemistry Chemical Physics, 2020, 22, 19585-19591.	2.8	8
42	Combined subsampling and analytical integration for efficient large-scale GW calculations for 2D systems. Npj Computational Materials, 2020, 6, .	8.7	9
43	High-throughput screening platform for solid electrolytes combining hierarchical ion-transport prediction algorithms. Scientific Data, 2020, 7, 151.	5.3	90
44	CAVD, towards better characterization of void space for ionic transport analysis. Scientific Data, 2020, 7, 153.	5.3	43
45	Reducing the charge overpotential of Liâ€“O₂ batteries through band-alignment cathode design. Energy and Environmental Science, 2020, 13, 2540-2548.	30.8	30
46	Tuning Electrical Conductance in Bilayer MoS₂ through Defect-Mediated Interlayer Chemical Bonding. ACS Nano, 2020, 14, 10265-10275.	14.6	40
47	Giant thermopower of ionic gelatin near room temperature. Science, 2020, 368, 1091-1098.	12.6	382
48	Semiconductor glass with superior flexibility and high room temperature thermoelectric performance. Science Advances, 2020, 6, eaaz8423.	10.3	108
49	The Electronic Transport Channel Protection and Tuning in Real Space to Boost the Thermoelectric Performance of Mg _{3+ Î´} Sb _{2- y} Bi _y near Room Temperature. Research, 2020, 2020, 1672051.	5.7	29
50	Violation of the T ^{â^'1} Relationship in the Lattice Thermal Conductivity of Mg ₃ Sb ₂ with Locally Asymmetric Vibrations. Research, 2020, 2020, 4589786.	5.7	25
51	Realization of higher thermoelectric performance by dynamic doping of copper in n-type PbTe. Energy and Environmental Science, 2019, 12, 3089-3098.	30.8	127
52	Rationalizing the interphase stability of Li|doped-Li₇La₃Zr₂O₁₂via automated reaction screening and machine learning. Journal of Materials Chemistry A, 2019, 7, 19961-19969.	10.3	59
53	Two-dimensional topological materials discovery by symmetry-indicator method. Physical Review B, 2019, 100, .	3.2	29
54	Thermoelectrics: Mg₃₊_{Î´}Sb_xBi_{2â^'}_x Family: A Promising Substitute for the Stateâ€ofâ€theâ€Art nâ€Type Thermoelectric Materials near Room Temperature (Adv. Funct. Mater. 4/2019). Advanced Functional Materials, 2019, 29, 1970020.	14.9	2

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55	Short-range order in defective half-Heusler thermoelectric crystals. Energy and Environmental Science, 2019, 12, 1568-1574.	30.8	86
56	Complex Band Structures and Lattice Dynamics of Bi₂Te₃â€Based Compounds and Solid Solutions. Advanced Functional Materials, 2019, 29, 1900677.	14.9	135
57	High-Throughput Screening for Advanced Thermoelectric Materials: Diamond-Like ABX₂ Compounds. ACS Applied Materials & Interfaces, 2019, 11, 24859-24866.	8.0	72
58	Achieving band convergence by tuning the bonding ionicity in nâ€type Mg₃Sb₂. Journal of Computational Chemistry, 2019, 40, 1693-1700.	3.3	68
59	Reaction Mechanisms for Long-Life Rechargeable Zn/MnO₂ Batteries. Chemistry of Materials, 2019, 31, 2036-2047.	6.7	195
60	A₂Cu₃In₃Te₈ (A = Cd, Zn, Mn, Mg): A Type of Thermoelectric Material with Complex Diamond-like Structure and Low Lattice Thermal Conductivities. ACS Applied Energy Materials, 2019, 2, 8956-8965.	5.1	17
61	Thermodynamic Ground States of Multifunctional Metal Dodecaborides. Chemistry of Materials, 2019, 31, 1075-1083.	6.7	15
62	Mg₃₊_{Î´}Sb_xBi_{2â€“}_x Family: A Promising Substitute for the Stateâ€ofâ€theâ€Art nâ€Type Thermoelectric Materials near Room Temperature. Advanced Functional Materials, 2019, 29, 1807235.	14.9	98
63	Thermal transport in thermoelectric materials with chemical bond hierarchy. Journal of Physics Condensed Matter, 2019, 31, 183002.	1.8	19
64	Flexible Electronics: Mechanical Strainâ€Tunable Microwave Magnetism in Flexible CuFe₂O₄ Epitaxial Thin Film for Wearable Sensors (Adv. Funct. Mater. 10/2018). Advanced Functional Materials, 2018, 28, 1870063.	14.9	3
65	The role of the solid electrolyte interphase layer in preventing Li dendrite growth in solid-state batteries. Energy and Environmental Science, 2018, 11, 1803-1810.	30.8	304
66	Mechanical Strainâ€Tunable Microwave Magnetism in Flexible CuFe₂O₄ Epitaxial Thin Film for Wearable Sensors. Advanced Functional Materials, 2018, 28, 1705928.	14.9	58
67	Boosting the thermoelectric performance of PbSe through dynamic doping and hierarchical phonon scattering. Energy and Environmental Science, 2018, 11, 1848-1858.	30.8	163
68	Discovery of High-Performance Thermoelectric Chalcogenides through Reliable High-Throughput Material Screening. Journal of the American Chemical Society, 2018, 140, 10785-10793.	13.7	134
69	Suppression of atom motion and metal deposition in mixed ionic electronic conductors. Nature Communications, 2018, 9, 2910.	12.8	148
70	Dynamic process of the resonant phonon scattering in fully filled skutterudites. Physical Review B, 2018, 98, .	3.2	10
71	On the tuning of electrical and thermal transport in thermoelectrics: an integrated theoryâ€“experiment perspective. Npj Computational Materials, 2016, 2, .	8.7	399
72	High intrinsic carrier mobility and photon absorption in the perovskite CH₃NH₃PbI₃. Physical Chemistry Chemical Physics, 2015, 17, 11516-11520.	2.8	182

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73	Thermopower enhancement in quantum wells with the Rashba effect. Applied Physics Letters, 2014, 105, .	3.3	18
74	Two-dimensional thermoelectrics with Rashba spin-split bands in bulk BiTeI. Physical Review B, 2014, 90, .	3.2	74
75	Part-crystalline part-liquid state and rattling-like thermal damping in materials with chemical-bond hierarchy. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 15031-15035.	7.1	225
76	Copper ion liquid-like thermoelectrics. Nature Materials, 2012, 11, 422-425.	27.5	1,700
77	Multiple-Filled Skutterudites: High Thermoelectric Figure of Merit through Separately Optimizing Electrical and Thermal Transports. Journal of the American Chemical Society, 2011, 133, 7837-7846.	13.7	1,242
78	Cuâ''Se Bond Network and Thermoelectric Compounds with Complex Diamondlike Structure. Chemistry of Materials, 2010, 22, 6029-6031.	6.7	189