

Zhiwei Chen

List of Publications by Year in descending order

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54
papers

6,805
citations

70961

41
h-index

155451

55
g-index

55
all docs

55
docs citations

55
times ranked

3351
citing authors

#	ARTICLE	IF	CITATIONS
1	A record thermoelectric efficiency in tellurium-free modules for low-grade waste heat recovery. Nature Communications, 2022, 13, 237.	5.8	99
2	Individualization of optimal operation currents for promoting multi-stage thermoelectric cooling. Materials Today Physics, 2022, 26, 100746.	2.9	3
3	Parallel Dislocation Networks and Cottrell Atmospheres Reduce Thermal Conductivity of PbTe Thermoelectrics. Advanced Functional Materials, 2021, 31, 2101214.	7.8	41
4	Manipulation of Defects for High-Performance Thermoelectric PbTe-Based Alloys. Small Structures, 2021, 2, 2100016.	6.9	10
5	Realizing a 14% single-leg thermoelectric efficiency in GeTe alloys. Science Advances, 2021, 7, .	4.7	91
6	Compromise between band structure and phonon scattering in efficient n-Mg ₃ Sb ₂ -Bi thermoelectrics. Materials Today Physics, 2021, 18, 100362.	2.9	41
7	Leveraging bipolar effect to enhance transverse thermoelectricity in semimetal Mg ₂ Pb for cryogenic heat pumping. Nature Communications, 2021, 12, 3837.	5.8	24
8	An over 10% module efficiency obtained using non-Bi ₂ Te ₃ thermoelectric materials for recovering heat of <math>\lt; i>x</i> \hat{a} \% 0.07</math>. Energy and Environmental Science, 2021, 14, 6506-6513.	15.6	66
9	Near-room-temperature rhombohedral Ge ₁ -Pb Te thermoelectrics. Materials Today Physics, 2020, 15, 100260.	2.9	20
10	Electronic quality factor for thermoelectrics. Science Advances, 2020, 6, .	4.7	88
11	Optimized Strategies for Advancing n-Type PbTe Thermoelectrics: A Review. ACS Applied Materials & Interfaces, 2020, 12, 49323-49334.	4.0	51
12	Revealing the origin of dislocations in Pb _{1-x} Sb _{2x/3} Se (0 <math>\lt; i>x</i> \hat{a} \% 0.07</math>). Nanoscale, 2020, 12, 19165-19169.	2.8	3
13	Thermoelectric Enhancements in PbTe Alloys Due to Dislocation-Induced Strains and Converged Bands. Advanced Science, 2020, 7, 1902628.	5.6	78
14	Cu Interstitials Enable Carriers and Dislocations for Thermoelectric Enhancements in n-PbTe _{0.75} Se _{0.25} . Chem, 2020, 6, 523-537.	5.8	69
15	Thermoelectric properties of Cu ₄ Ge ₃ Se ₅ with an intrinsic disordered zinc blende structure. Journal of Materials Chemistry A, 2020, 8, 3431-3437.	5.2	9
16	GeTe Thermoelectrics. Joule, 2020, 4, 986-1003.	11.7	215
17	Manipulation of Band Degeneracy and Lattice Strain for Extraordinary PbTe Thermoelectrics. Research, 2020, 2020, 8151059.	2.8	23
18	Extraordinary n-Type Mg ₃ SbBi Thermoelectrics Enabled by Yttrium Doping. Advanced Materials, 2019, 31, e1903387.	11.1	120

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19	Solute manipulation enabled band and defect engineering for thermoelectric enhancements of SnTe. <i>Informa</i> Mater, 2019, 1, 571-581.	8.5	36
20	Efficient Sc-Doped Mg _{3.05} ScSbBi Thermoelectrics Near Room Temperature. <i>Chemistry of Materials</i> , 2019, 31, 8987-8994.	3.2	55
21	Fabrication and Thermoelectric Properties of Single-Crystal Argyrodite Ag ₈ SnSe ₆ . <i>Chemistry of Materials</i> , 2019, 31, 2603-2610.	3.2	35
22	Lattice Strain Advances Thermoelectrics. <i>Joule</i> , 2019, 3, 1276-1288.	11.7	333
23	Lattice Softening Significantly Reduces Thermal Conductivity and Leads to High Thermoelectric Efficiency. <i>Advanced Materials</i> , 2019, 31, e1900108.	11.1	171
24	MnTe ₂ as a novel promising thermoelectric material. <i>Journal of Materiomics</i> , 2018, 4, 215-220.	2.8	19
25	Crystal Structure Induced Ultralow Lattice Thermal Conductivity in Thermoelectric Ag ₉ AlSe ₆ . <i>Advanced Energy Materials</i> , 2018, 8, 1800030.	10.2	88
26	Manipulation of Phonon Transport in Thermoelectrics. <i>Advanced Materials</i> , 2018, 30, e1705617.	11.1	316
27	Charge Transport in Thermoelectric SnSe Single Crystals. <i>ACS Energy Letters</i> , 2018, 3, 689-694.	8.8	41
28	Low-Symmetry Rhombohedral GeTe Thermoelectrics. <i>Joule</i> , 2018, 2, 976-987.	11.7	402
29	Vacancy Manipulation for Thermoelectric Enhancements in GeTe Alloys. <i>Journal of the American Chemical Society</i> , 2018, 140, 15883-15888.	6.6	182
30	Rationalizing phonon dispersion for lattice thermal conductivity of solids. <i>National Science Review</i> , 2018, 5, 888-894.	4.6	129
31	Manipulation of Band Structure and Interstitial Defects for Improving Thermoelectric SnTe. <i>Advanced Functional Materials</i> , 2018, 28, 1803586.	7.8	183
32	Interstitial Defects Improving Thermoelectric SnTe in Addition to Band Convergence. <i>ACS Energy Letters</i> , 2017, 2, 563-568.	8.8	123
33	Electronic origin of the high thermoelectric performance of GeTe among the p-type group IV monotelellurides. <i>NPG Asia Materials</i> , 2017, 9, e353-e353.	3.8	223
34	Promoting SnTe as an Eco-Friendly Solution for p-PbTe Thermoelectric via Band Convergence and Interstitial Defects. <i>Advanced Materials</i> , 2017, 29, 1605887.	11.1	317
35	Substitutional defects enhancing thermoelectric CuGaTe ₂ . <i>Journal of Materials Chemistry A</i> , 2017, 5, 5314-5320.	5.2	87
36	Lattice Dislocations Enhancing Thermoelectric PbTe in Addition to Band Convergence. <i>Advanced Materials</i> , 2017, 29, 1606768.	11.1	365

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37	Sb induces both doping and precipitation for improving the thermoelectric performance of elemental Te. <i>Inorganic Chemistry Frontiers</i> , 2017, 4, 1066-1072.	3.0	45
38	Realizing the High Thermoelectric Performance of GeTe by Sb-Doping and Se-Alloying. <i>Chemistry of Materials</i> , 2017, 29, 605-611.	3.2	226
39	Vacancy-induced dislocations within grains for high-performance PbSe thermoelectrics. <i>Nature Communications</i> , 2017, 8, 13828.	5.8	360
40	Promising thermoelectric performance in van der Waals layered SnSe ₂ . <i>Materials Today Physics</i> , 2017, 3, 127-136.	2.9	95
41	Simultaneous Optimization of Carrier Concentration and Alloy Scattering for Ultrahigh Performance GeTe Thermoelectrics. <i>Advanced Science</i> , 2017, 4, 1700341.	5.6	151
42	Promising Thermoelectric Ag ₅ Te ₃ with Intrinsic Low Lattice Thermal Conductivity. <i>ACS Energy Letters</i> , 2017, 2, 2470-2477.	8.8	54
43	High Thermoelectric Performance of Ag ₉ GaSe ₆ Enabled by Low Cutoff Frequency of Acoustic Phonons. <i>Joule</i> , 2017, 1, 816-830.	11.7	195
44	Thermoelectric Properties of SnS with Na-Doping. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 34033-34041.	4.0	118
45	Advances in Environment-Friendly SnTe Thermoelectrics. <i>ACS Energy Letters</i> , 2017, 2, 2349-2355.	8.8	109
46	Performance optimization and single parabolic band behavior of thermoelectric MnTe. <i>Journal of Materials Chemistry A</i> , 2017, 5, 19143-19150.	5.2	53
47	Vacancy scattering for enhancing the thermoelectric performance of CuGaTe ₂ solid solutions. <i>Journal of Materials Chemistry A</i> , 2016, 4, 15464-15470.	5.2	106
48	Thermoelectric Properties of Cu ₂ SnSe ₄ with Intrinsic Vacancy. <i>Chemistry of Materials</i> , 2016, 28, 6227-6232.	3.2	115
49	Thermoelectric properties of GeSe. <i>Journal of Materiomics</i> , 2016, 2, 331-337.	2.8	67
50	Interstitial Point Defect Scattering Contributing to High Thermoelectric Performance in SnTe. <i>Advanced Electronic Materials</i> , 2016, 2, 1600019.	2.6	235
51	Tellurium as a high-performance elemental thermoelectric. <i>Nature Communications</i> , 2016, 7, 10287.	5.8	369
52	Single parabolic band behavior of thermoelectric p-type CuGaTe ₂ . <i>Journal of Materials Chemistry C</i> , 2016, 4, 209-214.	2.7	94
53	Band and scattering tuning for high performance thermoelectric Sn _{1-x} MnxTe alloys. <i>Journal of Materiomics</i> , 2015, 1, 307-315.	2.8	193
54	Significant band engineering effect of YbTe for high performance thermoelectric PbTe. <i>Journal of Materials Chemistry C</i> , 2015, 3, 12410-12417.	2.7	61