Zhiwei Chen

List of Publications by Year
in descending order

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54	6,805	71102	155660
papers	citations	41 h-index	55 g-index

55	55	55	3351
all docs	docs citations	times ranked	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.	12.8	99
2	Individualization of optimal operation currents for promoting multi-stage thermoelectric cooling. Materials Today Physics, 2022, 26, 100746.	6.0	3
3	Parallel Dislocation Networks and Cottrell Atmospheres Reduce Thermal Conductivity of PbTe Thermoelectrics. Advanced Functional Materials, 2021, 31, 2101214.	14.9	41
4	Manipulation of Defects for Highâ€Performance Thermoelectric PbTeâ€Based Alloys. Small Structures, 2021, 2, 2100016.	12.0	10
5	Realizing a 14% single-leg thermoelectric efficiency in GeTe alloys. Science Advances, 2021, 7, .	10.3	91
6	Compromise between band structure and phonon scattering in efficient n-Mg3Sb2-Bi thermoelectrics. Materials Today Physics, 2021, 18, 100362.	6.0	41
7	Leveraging bipolar effect to enhance transverse thermoelectricity in semimetal Mg2Pb for cryogenic heat pumping. Nature Communications, 2021, 12, 3837.	12.8	24
8	An over 10% module efficiency obtained using non-Bi₂Te₃ thermoelectric materials for recovering heat of <600 K. Energy and Environmental Science, 2021, 14, 6506-6513.	30.8	66
9	Near-room-temperature rhombohedral Ge1-Pb Te thermoelectrics. Materials Today Physics, 2020, 15, 100260.	6.0	20
10	Electronic quality factor for thermoelectrics. Science Advances, 2020, 6, .	10.3	88
11	Optimized Strategies for Advancing n-Type PbTe Thermoelectrics: A Review. ACS Applied Materials & Interfaces, 2020, 12, 49323-49334.	8.0	51
12	Revealing the origin of dislocations in Pb_{1â^'x}Sb_{2x/3}Se (0 < x â‰ 0.07). Nanoscale, 2020, 12, 19165-19169.	5.6	3
13	Thermoelectric Enhancements in PbTe Alloys Due to Dislocationâ€Induced Strains and Converged Bands. Advanced Science, 2020, 7, 1902628.	11.2	78
14	Cu Interstitials Enable Carriers and Dislocations for Thermoelectric Enhancements in n-PbTe0.75Se0.25. CheM, 2020, 6, 523-537.	11.7	69
15	Thermoelectric properties of Cu4Ge3Se5 with an intrinsic disordered zinc blende structure. Journal of Materials Chemistry A, 2020, 8, 3431-3437.	10.3	9
16	GeTe Thermoelectrics. Joule, 2020, 4, 986-1003.	24.0	215
17	Manipulation of Band Degeneracy and Lattice Strain for Extraordinary PbTe Thermoelectrics. Research, 2020, 2020, 8151059.	5.7	23
18	Extraordinary nâ€Type Mg₃SbBi Thermoelectrics Enabled by Yttrium Doping. Advanced Materials, 2019, 31, e1903387.	21.0	120

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19	Solute manipulation enabled band and defect engineering for thermoelectric enhancements of SnTe. InformaÄnÃ-MateriÃ¡ly, 2019, 1, 571-581.	17.3	36
20	Efficient Sc-Doped Mg_{3.05â€“x}Sc_xSbBi Thermoelectrics Near Room Temperature. Chemistry of Materials, 2019, 31, 8987-8994.	6.7	55
21	Fabrication and Thermoelectric Properties of Single-Crystal Argyrodite Ag₈SnSe₆. Chemistry of Materials, 2019, 31, 2603-2610.	6.7	35
22	Lattice Strain Advances Thermoelectrics. Joule, 2019, 3, 1276-1288.	24.0	333
23	Lattice Softening Significantly Reduces Thermal Conductivity and Leads to High Thermoelectric Efficiency. Advanced Materials, 2019, 31, e1900108.	21.0	171
24	MnTe2 as a novel promising thermoelectric material. Journal of Materiomics, 2018, 4, 215-220.	5.7	19
25	Crystal Structure Induced Ultralow Lattice Thermal Conductivity in Thermoelectric Ag₉AlSe₆. Advanced Energy Materials, 2018, 8, 1800030.	19.5	88
26	Manipulation of Phonon Transport in Thermoelectrics. Advanced Materials, 2018, 30, e1705617.	21.0	316
27	Charge Transport in Thermoelectric SnSe Single Crystals. ACS Energy Letters, 2018, 3, 689-694.	17.4	41
28	Low-Symmetry Rhombohedral GeTe Thermoelectrics. Joule, 2018, 2, 976-987.	24.0	402
29	Vacancy Manipulation for Thermoelectric Enhancements in GeTe Alloys. Journal of the American Chemical Society, 2018, 140, 15883-15888.	13.7	182
30	Rationalizing phonon dispersion for lattice thermal conductivity of solids. National Science Review, 2018, 5, 888-894.	9.5	129
31	Manipulation of Band Structure and Interstitial Defects for Improving Thermoelectric SnTe. Advanced Functional Materials, 2018, 28, 1803586.	14.9	183
32	Interstitial Defects Improving Thermoelectric SnTe in Addition to Band Convergence. ACS Energy Letters, 2017, 2, 563-568.	17.4	123
33	Electronic origin of the high thermoelectric performance of GeTe among the p-type group IV monotellurides. NPG Asia Materials, 2017, 9, e353-e353.	7.9	223
34	Promoting SnTe as an Ecoâ€Friendly Solution for pâ€PbTe Thermoelectric via Band Convergence and Interstitial Defects. Advanced Materials, 2017, 29, 1605887.	21.0	317
35	Substitutional defects enhancing thermoelectric CuGaTe₂. Journal of Materials Chemistry A, 2017, 5, 5314-5320.	10.3	87
36	Lattice Dislocations Enhancing Thermoelectric PbTe in Addition to Band Convergence. Advanced Materials, 2017, 29, 1606768.	21.0	365

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37	Sb induces both doping and precipitation for improving the thermoelectric performance of elemental Te. Inorganic Chemistry Frontiers, 2017, 4, 1066-1072.	6.0	45
38	Realizing the High Thermoelectric Performance of GeTe by Sb-Doping and Se-Alloying. Chemistry of Materials, 2017, 29, 605-611.	6.7	226
39	Vacancy-induced dislocations within grains for high-performance PbSe thermoelectrics. Nature Communications, 2017, 8, 13828.	12.8	360
40	Promising thermoelectric performance in van der Waals layered SnSe2. Materials Today Physics, 2017, 3, 127-136.	6.0	95
41	Simultaneous Optimization of Carrier Concentration and Alloy Scattering for Ultrahigh Performance GeTe Thermoelectrics. Advanced Science, 2017, 4, 1700341.	11.2	151
42	Promising Thermoelectric Ag_{5â^'Î´}Te₃ with Intrinsic Low Lattice Thermal Conductivity. ACS Energy Letters, 2017, 2, 2470-2477.	17.4	54
43	High Thermoelectric Performance of Ag9GaSe6 Enabled by Low Cutoff Frequency of Acoustic Phonons. Joule, 2017, 1, 816-830.	24.0	195
44	Thermoelectric Properties of SnS with Na-Doping. ACS Applied Materials & Interfaces, 2017, 9, 34033-34041.	8.0	118
45	Advances in Environment-Friendly SnTe Thermoelectrics. ACS Energy Letters, 2017, 2, 2349-2355.	17.4	109
46	Performance optimization and single parabolic band behavior of thermoelectric MnTe. Journal of Materials Chemistry A, 2017, 5, 19143-19150.	10.3	53
47	Vacancy scattering for enhancing the thermoelectric performance of CuGaTe₂ solid solutions. Journal of Materials Chemistry A, 2016, 4, 15464-15470.	10.3	106
48	Thermoelectric Properties of Cu₂SnSe₄ with Intrinsic Vacancy. Chemistry of Materials, 2016, 28, 6227-6232.	6.7	115
49	Thermoelectric properties of GeSe. Journal of Materiomics, 2016, 2, 331-337.	5.7	67
50	Interstitial Point Defect Scattering Contributing to High Thermoelectric Performance in SnTe. Advanced Electronic Materials, 2016, 2, 1600019.	5.1	235
51	Tellurium as a high-performance elemental thermoelectric. Nature Communications, 2016, 7, 10287.	12.8	369
52	Single parabolic band behavior of thermoelectric p-type CuGaTe₂. Journal of Materials Chemistry C, 2016, 4, 209-214.	5.5	94
53	Band and scattering tuning for high performance thermoelectric Sn1â^'xMnxTe alloys. Journal of Materiomics, 2015, 1, 307-315.	5.7	193
54	Significant band engineering effect of YbTe for high performance thermoelectric PbTe. Journal of Materials Chemistry C, 2015, 3, 12410-12417.	5.5	61