Zhiwei Chen

List of Publications by Year
in descending order

54	6,805	41	55
papers	citations	h-index	g-index
		70961	155451

55	55	55	3351
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Low-Symmetry Rhombohedral GeTe Thermoelectrics. Joule, 2018, 2, 976-987.	11.7	402
2	Tellurium as a high-performance elemental thermoelectric. Nature Communications, 2016, 7, 10287.	5.8	369
3	Lattice Dislocations Enhancing Thermoelectric PbTe in Addition to Band Convergence. Advanced Materials, 2017, 29, 1606768.	11.1	365
4	Vacancy-induced dislocations within grains for high-performance PbSe thermoelectrics. Nature Communications, 2017, 8, 13828.	5.8	360
5	Lattice Strain Advances Thermoelectrics. Joule, 2019, 3, 1276-1288.	11.7	333
6	Promoting SnTe as an Ecoâ€Friendly Solution for pâ€PbTe Thermoelectric via Band Convergence and Interstitial Defects. Advanced Materials, 2017, 29, 1605887.	11.1	317
7	Manipulation of Phonon Transport in Thermoelectrics. Advanced Materials, 2018, 30, e1705617.	11.1	316
8	Interstitial Point Defect Scattering Contributing to High Thermoelectric Performance in SnTe. Advanced Electronic Materials, 2016, 2, 1600019.	2.6	235
9	Realizing the High Thermoelectric Performance of GeTe by Sb-Doping and Se-Alloying. Chemistry of Materials, 2017, 29, 605-611.	3.2	226
10	Electronic origin of the high thermoelectric performance of GeTe among the p-type group IV monotellurides. NPG Asia Materials, 2017, 9, e353-e353.	3.8	223
11	GeTe Thermoelectrics. Joule, 2020, 4, 986-1003.	11.7	215
12	High Thermoelectric Performance of Ag9GaSe6 Enabled by Low Cutoff Frequency of Acoustic Phonons. Joule, 2017, 1, 816-830.	11.7	195
13	Band and scattering tuning for high performance thermoelectric Sn1âˆ'xMnxTe alloys. Journal of Materiomics, 2015, 1, 307-315.	2.8	193
14	Manipulation of Band Structure and Interstitial Defects for Improving Thermoelectric SnTe. Advanced Functional Materials, 2018, 28, 1803586.	7.8	183
15	Vacancy Manipulation for Thermoelectric Enhancements in GeTe Alloys. Journal of the American Chemical Society, 2018, 140, 15883-15888.	6.6	182
16	Lattice Softening Significantly Reduces Thermal Conductivity and Leads to High Thermoelectric Efficiency. Advanced Materials, 2019, 31, e1900108.	11.1	171
17	Simultaneous Optimization of Carrier Concentration and Alloy Scattering for Ultrahigh Performance GeTe Thermoelectrics. Advanced Science, 2017, 4, 1700341.	5.6	151
18	Rationalizing phonon dispersion for lattice thermal conductivity of solids. National Science Review, 2018, 5, 888-894.	4.6	129

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19	Interstitial Defects Improving Thermoelectric SnTe in Addition to Band Convergence. ACS Energy Letters, 2017, 2, 563-568.	8.8	123
20	Extraordinary nâ€Type Mg₃SbBi Thermoelectrics Enabled by Yttrium Doping. Advanced Materials, 2019, 31, e1903387.	11.1	120
21	Thermoelectric Properties of SnS with Na-Doping. ACS Applied Materials & Interfaces, 2017, 9, 34033-34041.	4.0	118
22	Thermoelectric Properties of Cu₂SnSe₄ with Intrinsic Vacancy. Chemistry of Materials, 2016, 28, 6227-6232.	3.2	115
23	Advances in Environment-Friendly SnTe Thermoelectrics. ACS Energy Letters, 2017, 2, 2349-2355.	8.8	109
24	Vacancy scattering for enhancing the thermoelectric performance of CuGaTe₂ solid solutions. Journal of Materials Chemistry A, 2016, 4, 15464-15470.	5.2	106
25	A record thermoelectric efficiency in tellurium-free modules for low-grade waste heat recovery. Nature Communications, 2022, 13, 237.	5.8	99
26	Promising thermoelectric performance in van der Waals layered SnSe2. Materials Today Physics, 2017, 3, 127-136.	2.9	95
27	Single parabolic band behavior of thermoelectric p-type CuGaTe₂. Journal of Materials Chemistry C, 2016, 4, 209-214.	2.7	94
28	Realizing a 14% single-leg thermoelectric efficiency in GeTe alloys. Science Advances, 2021, 7, .	4.7	91
29	Crystal Structure Induced Ultralow Lattice Thermal Conductivity in Thermoelectric Ag₉AlSe₆. Advanced Energy Materials, 2018, 8, 1800030.	10.2	88
30	Electronic quality factor for thermoelectrics. Science Advances, 2020, 6, .	4.7	88
31	Substitutional defects enhancing thermoelectric CuGaTe₂. Journal of Materials Chemistry A, 2017, 5, 5314-5320.	5.2	87
32	Thermoelectric Enhancements in PbTe Alloys Due to Dislocationâ€Induced Strains and Converged Bands. Advanced Science, 2020, 7, 1902628.	5.6	78
33	Cu Interstitials Enable Carriers and Dislocations for Thermoelectric Enhancements in n-PbTe0.75Se0.25. CheM, 2020, 6, 523-537.	5.8	69
34	Thermoelectric properties of GeSe. Journal of Materiomics, 2016, 2, 331-337.	2.8	67
35	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.	15.6	66
36	Significant band engineering effect of YbTe for high performance thermoelectric PbTe. Journal of Materials Chemistry C, 2015, 3, 12410-12417.	2.7	61

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37	Efficient Sc-Doped Mg_{3.05â€"<i>x</i>}Sc<i>_x</i>SbBi Thermoelectrics Near Room Temperature. Chemistry of Materials, 2019, 31, 8987-8994.	3.2	55
38	Promising Thermoelectric Ag_{5âˆ'Î´}Te₃ with Intrinsic Low Lattice Thermal Conductivity. ACS Energy Letters, 2017, 2, 2470-2477.	8.8	54
39	Performance optimization and single parabolic band behavior of thermoelectric MnTe. Journal of Materials Chemistry A, 2017, 5, 19143-19150.	5.2	53
40	Optimized Strategies for Advancing n-Type PbTe Thermoelectrics: A Review. ACS Applied Materials & Interfaces, 2020, 12, 49323-49334.	4.0	51
41	Sb induces both doping and precipitation for improving the thermoelectric performance of elemental Te. Inorganic Chemistry Frontiers, 2017, 4, 1066-1072.	3.0	45
42	Charge Transport in Thermoelectric SnSe Single Crystals. ACS Energy Letters, 2018, 3, 689-694.	8.8	41
43	Parallel Dislocation Networks and Cottrell Atmospheres Reduce Thermal Conductivity of PbTe Thermoelectrics. Advanced Functional Materials, 2021, 31, 2101214.	7.8	41
44	Compromise between band structure and phonon scattering in efficient n-Mg3Sb2-Bi thermoelectrics. Materials Today Physics, 2021, 18, 100362.	2.9	41
45	Solute manipulation enabled band and defect engineering for thermoelectric enhancements of SnTe. InformaÄnÃ-MateriÃ¡ly, 2019, 1, 571-581.	8.5	36
46	Fabrication and Thermoelectric Properties of Single-Crystal Argyrodite Ag₈SnSe₆. Chemistry of Materials, 2019, 31, 2603-2610.	3.2	35
47	Leveraging bipolar effect to enhance transverse thermoelectricity in semimetal Mg2Pb for cryogenic heat pumping. Nature Communications, 2021, 12, 3837.	5.8	24
48	Manipulation of Band Degeneracy and Lattice Strain for Extraordinary PbTe Thermoelectrics. Research, 2020, 2020, 8151059.	2.8	23
49	Near-room-temperature rhombohedral Ge1-Pb Te thermoelectrics. Materials Today Physics, 2020, 15, 100260.	2.9	20
50	MnTe2 as a novel promising thermoelectric material. Journal of Materiomics, 2018, 4, 215-220.	2.8	19
51	Manipulation of Defects for Highâ€Performance Thermoelectric PbTeâ€Based Alloys. Small Structures, 2021, 2, 2100016.	6.9	10
52	Thermoelectric properties of Cu4Ge3Se5 with an intrinsic disordered zinc blende structure. Journal of Materials Chemistry A, 2020, 8, 3431-3437.	5.2	9
53	Revealing the origin of dislocations in Pb_{1âˆ'x}Sb_{2x/3}Se (0 < <i>x</i> â‰ 0.07). Nanoscale, 2020, 12, 19165-19169.	2.8	3
54	Individualization of optimal operation currents for promoting multi-stage thermoelectric cooling. Materials Today Physics, 2022, 26, 100746.	2.9	3