# 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 | Low-Symmetry Rhombohedral GeTe Thermoelectrics. Joule, 2018, 2, 976-987. | 24.0 | 402 |
| 2 | Tellurium as a high-performance elemental thermoelectric. Nature Communications, 2016, 7, 10287. | 12.8 | 369 |
| 3 | Lattice Dislocations Enhancing Thermoelectric PbTe in Addition to Band Convergence. Advanced Materials, 2017, 29, 1606768. | 21.0 | 365 |
| 4 | Vacancy-induced dislocations within grains for high-performance PbSe thermoelectrics. Nature Communications, 2017, 8, 13828. | 12.8 | 360 |
| 5 | Lattice Strain Advances Thermoelectrics. Joule, 2019, 3, 1276-1288. | 24.0 | 333 |
| 6 | 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 |
| 7 | Manipulation of Phonon Transport in Thermoelectrics. Advanced Materials, 2018, 30, e1705617. | 21.0 | 316 |
| 8 | Interstitial Point Defect Scattering Contributing to High Thermoelectric Performance in SnTe. Advanced Electronic Materials, 2016, 2, 1600019. | 5.1 | 235 |
| 9 | Realizing the High Thermoelectric Performance of GeTe by Sb-Doping and Se-Alloying. Chemistry of Materials, 2017, 29, 605-611. | 6.7 | 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. | 7.9 | 223 |
| 11 | GeTe Thermoelectrics. Joule, 2020, 4, 986-1003. | 24.0 | 215 |
| 12 | High Thermoelectric Performance of Ag9GaSe6 Enabled by Low Cutoff Frequency of Acoustic Phonons. Joule, 2017, 1, 816-830. | 24.0 | 195 |
| 13 | Band and scattering tuning for high performance thermoelectric Sn1â^'xMnxTe alloys. Journal of Materiomics, 2015, 1, 307-315. | 5.7 | 193 |
| 14 | Manipulation of Band Structure and Interstitial Defects for Improving Thermoelectric SnTe. Advanced Functional Materials, 2018, 28, 1803586. | 14.9 | 183 |
| 15 | Vacancy Manipulation for Thermoelectric Enhancements in GeTe Alloys. Journal of the American Chemical Society, 2018, 140, 15883-15888. | 13.7 | 182 |
| 16 | Lattice Softening Significantly Reduces Thermal Conductivity and Leads to High Thermoelectric Efficiency. Advanced Materials, 2019, 31, e1900108. | 21.0 | 171 |
| 17 | Simultaneous Optimization of Carrier Concentration and Alloy Scattering for Ultrahigh Performance GeTe Thermoelectrics. Advanced Science, 2017, 4, 1700341. | 11.2 | 151 |
| 18 | Rationalizing phonon dispersion for lattice thermal conductivity of solids. National Science Review, 2018, 5, 888-894. | 9.5 | 129 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Interstitial Defects Improving Thermoelectric SnTe in Addition to Band Convergence. ACS Energy Letters, 2017, 2, 563-568. | 17.4 | 123 |
| 20 | Extraordinary nâ€Type Mg<sub>3</sub>SbBi Thermoelectrics Enabled by Yttrium Doping. Advanced Materials, 2019, 31, e1903387. | 21.0 | 120 |
| 21 | Thermoelectric Properties of SnS with Na-Doping. ACS Applied Materials & Interfaces, 2017, 9, 34033-34041. | 8.0 | 118 |
| 22 | Thermoelectric Properties of Cu<sub>2</sub>SnSe<sub>4</sub> with Intrinsic Vacancy. Chemistry of Materials, 2016, 28, 6227-6232. | 6.7 | 115 |
| 23 | Advances in Environment-Friendly SnTe Thermoelectrics. ACS Energy Letters, 2017, 2, 2349-2355. | 17.4 | 109 |
| 24 | Vacancy scattering for enhancing the thermoelectric performance of CuGaTe<sub>2</sub> solid solutions. Journal of Materials Chemistry A, 2016, 4, 15464-15470. | 10.3 | 106 |
| 25 | A record thermoelectric efficiency in tellurium-free modules for low-grade waste heat recovery. Nature Communications, 2022, 13, 237. | 12.8 | 99 |
| 26 | Promising thermoelectric performance in van der Waals layered SnSe2. Materials Today Physics, 2017, 3, 127-136. | 6.0 | 95 |
| 27 | Single parabolic band behavior of thermoelectric p-type CuGaTe<sub>2</sub>. Journal of Materials Chemistry C, 2016, 4, 209-214. | 5.5 | 94 |
| 28 | Realizing a 14% single-leg thermoelectric efficiency in GeTe alloys. Science Advances, 2021, 7, . | 10.3 | 91 |
| 29 | Crystal Structure Induced Ultralow Lattice Thermal Conductivity in Thermoelectric Ag<sub>9</sub>AlSe<sub>6</sub>. Advanced Energy Materials, 2018, 8, 1800030. | 19.5 | 88 |
| 30 | Electronic quality factor for thermoelectrics. Science Advances, 2020, 6, . | 10.3 | 88 |
| 31 | Substitutional defects enhancing thermoelectric CuGaTe<sub>2</sub>. Journal of Materials Chemistry A, 2017, 5, 5314-5320. | 10.3 | 87 |
| 32 | Thermoelectric Enhancements in PbTe Alloys Due to Dislocationâ€Induced Strains and Converged Bands. Advanced Science, 2020, 7, 1902628. | 11.2 | 78 |
| 33 | Cu Interstitials Enable Carriers and Dislocations for Thermoelectric Enhancements in n-PbTe0.75Se0.25. CheM, 2020, 6, 523-537. | 11.7 | 69 |
| 34 | Thermoelectric properties of GeSe. Journal of Materiomics, 2016, 2, 331-337. | 5.7 | 67 |
| 35 | An over 10% module efficiency obtained using non-Bi<sub>2</sub>Te<sub>3</sub> thermoelectric materials for recovering heat of <600 K. Energy and Environmental Science, 2021, 14, 6506-6513. | 30.8 | 66 |
| 36 | Significant band engineering effect of YbTe for high performance thermoelectric PbTe. Journal of Materials Chemistry C, 2015, 3, 12410-12417. | 5.5 | 61 |

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|---|---|---|---|
| 37 | Efficient Sc-Doped Mg<sub>3.05â€“x</sub>Sc<sub>x</sub>SbBi Thermoelectrics Near Room Temperature. Chemistry of Materials, 2019, 31, 8987-8994. | 6.7 | 55 |
| 38 | Promising Thermoelectric Ag<sub>5â^Î´</sub>Te<sub>3</sub> with Intrinsic Low Lattice Thermal Conductivity. ACS Energy Letters, 2017, 2, 2470-2477. | 17.4 | 54 |
| 39 | Performance optimization and single parabolic band behavior of thermoelectric MnTe. Journal of Materials Chemistry A, 2017, 5, 19143-19150. | 10.3 | 53 |
| 40 | Optimized Strategies for Advancing n-Type PbTe Thermoelectrics: A Review. ACS Applied Materials & Interfaces, 2020, 12, 49323-49334. | 8.0 | 51 |
| 41 | Sb induces both doping and precipitation for improving the thermoelectric performance of elemental Te. Inorganic Chemistry Frontiers, 2017, 4, 1066-1072. | 6.0 | 45 |
| 42 | Charge Transport in Thermoelectric SnSe Single Crystals. ACS Energy Letters, 2018, 3, 689-694. | 17.4 | 41 |
| 43 | Parallel Dislocation Networks and Cottrell Atmospheres Reduce Thermal Conductivity of PbTe Thermoelectrics. Advanced Functional Materials, 2021, 31, 2101214. | 14.9 | 41 |
| 44 | Compromise between band structure and phonon scattering in efficient n-Mg3Sb2-Bi thermoelectrics. Materials Today Physics, 2021, 18, 100362. | 6.0 | 41 |
| 45 | Solute manipulation enabled band and defect engineering for thermoelectric enhancements of SnTe. InformaÄnÃ-MateriÃ¡ly, 2019, 1, 571-581. | 17.3 | 36 |
| 46 | Fabrication and Thermoelectric Properties of Single-Crystal Argyrodite Ag<sub>8</sub>SnSe<sub>6</sub>. Chemistry of Materials, 2019, 31, 2603-2610. | 6.7 | 35 |
| 47 | Leveraging bipolar effect to enhance transverse thermoelectricity in semimetal Mg2Pb for cryogenic heat pumping. Nature Communications, 2021, 12, 3837. | 12.8 | 24 |
| 48 | Manipulation of Band Degeneracy and Lattice Strain for Extraordinary PbTe Thermoelectrics. Research, 2020, 2020, 8151059. | 5.7 | 23 |
| 49 | Near-room-temperature rhombohedral Ge1-Pb Te thermoelectrics. Materials Today Physics, 2020, 15, 100260. | 6.0 | 20 |
| 50 | MnTe2 as a novel promising thermoelectric material. Journal of Materiomics, 2018, 4, 215-220. | 5.7 | 19 |
| 51 | Manipulation of Defects for Highâ€Performance Thermoelectric PbTeâ€Based Alloys. Small Structures, 2021, 2, 2100016. | 12.0 | 10 |
| 52 | Thermoelectric properties of Cu4Ge3Se5 with an intrinsic disordered zinc blende structure. Journal of Materials Chemistry A, 2020, 8, 3431-3437. | 10.3 | 9 |
| 53 | Revealing the origin of dislocations in Pb<sub>1â^'x</sub>Sb<sub>2x/3</sub>Se (0 < x â‰¤ 0.07). Nanoscale, 2020, 12, 19165-19169. | 5.6 | 3 |
| 54 | Individualization of optimal operation currents for promoting multi-stage thermoelectric cooling. Materials Today Physics, 2022, 26, 100746. | 6.0 | 3 |