Wei Liu

List of Publications by Year
in descending order

54 papers	3,919 citations	236925 25 h-index	168389 53 g-index
54 all docs	54 docs citations	54 times ranked	2816 citing authors

#	Article	IF	Citations
1	Convergence of Conduction Bands as a Means of Enhancing Thermoelectric Performance of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>n</mml:mi></mml:math>-Type<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>Mg</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi>Si</mml:mi><mml:mi> Physical Review Letters, 2012, 109, 166601.	7.8	1,048
2	Rhombohedral to Cubic Conversion of GeTe via MnTe Alloying Leads to Ultralow Thermal Conductivity, Electronic Band Convergence, and High Thermoelectric Performance. Journal of the American Chemical Society, 2018, 140, 2673-2686.	13.7	307
3	Power generation and thermoelectric cooling enabled by momentum and energy multiband alignments. Science, 2021, 373, 556-561.	12.6	270
4	High thermoelectric performance in Bi_{0.46}Sb_{1.54}Te₃ nanostructured with ZnTe. Energy and Environmental Science, 2018, 11, 1520-1535.	30.8	239
5	Multiâ€Scale Microstructural Thermoelectric Materials: Transport Behavior, Nonâ€Equilibrium Preparation, and Applications. Advanced Materials, 2017, 29, 1602013.	21.0	234
6	Optimized Thermoelectric Properties of Sb-Doped Mg_{2(1+z)}Si_{0.5â€“y}Sn_{0.5}Sb_y through Adjustment of the Mg Content. Chemistry of Materials, 2011, 23, 5256-5263.	6.7	148
7	Thermal conductivity in Bi _{0.5} Sb _{1.5} Te _{3+ x} and the role of dense dislocation arrays at grain boundaries. Science Advances, 2018, 4, eaar5606.	10.3	143
8	High thermoelectric performance of p-BiSbTe compounds prepared by ultra-fast thermally induced reaction. Energy and Environmental Science, 2017, 10, 2638-2652.	30.8	138
9	A comprehensive review on Bi₂Te₃â€based thin films: Thermoelectrics and beyond. , 2022, 1, 88-115.		119
10	Advanced thermoelectrics governed by a single parabolic band: Mg₂Si_{0.3}Sn_{0.7}, a canonical example. Physical Chemistry Chemical Physics, 2014, 16, 6893-6897.	2.8	114
11	Rapid preparation of CeFe4Sb12 skutterudite by melt spinning: rich nanostructures and high thermoelectric performance. Journal of Materials Chemistry A, 2013, 1, 12657.	10.3	101
12	Discordant nature of Cd in GeTe enhances phonon scattering and improves band convergence for high thermoelectric performance. Journal of Materials Chemistry A, 2020, 8, 1193-1204.	10.3	83
13	Low effective mass and carrier concentration optimization for high performance p-type Mg_{2(1â^'x)}Li_{2x}Si_{0.3}Sn_{0.7}solid solutions. Physical Chemistry Chemical Physics, 2014, 16, 23576-23583.	2.8	77
14	Eco-friendly high-performance silicide thermoelectric materials. National Science Review, 2017, 4, 611-626.	9.5	71
15	Large Thermal Conductivity Drops in the Diamondoid Lattice of CuFeS₂ by Discordant Atom Doping. Journal of the American Chemical Society, 2019, 141, 18900-18909.	13.7	66
16	Understanding the combustion process for the synthesis of mechanically robust SnSe thermoelectrics. Nano Energy, 2018, 44, 53-62.	16.0	51
17	Realization of non-equilibrium process for high thermoelectric performance Sb-doped GeTe. Science Bulletin, 2018, 63, 717-725.	9.0	49
18	Realization of high thermoelectric performance in p-type unfilled ternary skutterudites FeSb2+xTe1â^'x via band structure modification and significant point defect scattering. Acta Materialia, 2013, 61, 7693-7704.	7.9	44

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19	Nonmagnetic In Substituted CuFe_{1â€“x}In_xS₂ Solid Solution Thermoelectric. Journal of Physical Chemistry C, 2016, 120, 27895-27902.	3.1	42
20	Modification of Bulk Heterojunction and Cl Doping for High-Performance Thermoelectric SnSe₂/SnSe Nanocomposites. ACS Applied Materials & Interfaces, 2018, 10, 15793-15802.	8.0	39
21	Thermoelectric performance of CuFeS2+2x composites prepared by rapid thermal explosion. NPG Asia Materials, 2017, 9, e390-e390.	7.9	38
22	Identifying the Manipulation of Individual Atomic-Scale Defects for Boosting Thermoelectric Performances in Artificially Controlled Bi₂Te₃ Films. ACS Nano, 2021, 15, 5706-5714.	14.6	38
23	Realizing High Thermoelectric Performance in Sb-Doped Ag₂Te Compounds with a Low-Temperature Monoclinic Structure. ACS Applied Materials & Interfaces, 2020, 12, 39425-39433.	8.0	35
24	Enhancing Thermoelectric Performance of n-Type PbSe through Forming Solid Solution with PbTe and PbS. ACS Applied Energy Materials, 2020, 3, 2-8.	5.1	27
25	Thermoelectric transport properties of p-type silver-doped PbS within situAg₂S nanoprecipitates. Journal Physics D: Applied Physics, 2014, 47, 115303.	2.8	26
26	Interpreting the Combustion Process for High-Performance ZrNiSn Thermoelectric Materials. ACS Applied Materials & Interfaces, 2018, 10, 864-872.	8.0	26
27	Anomalously Large Seebeck Coefficient of CuFeS₂ Derives from Large Asymmetry in the Energy Dependence of Carrier Relaxation Time. Chemistry of Materials, 2020, 32, 2639-2646.	6.7	26
28	Low temperature thermoelectric properties of p-type doped single-crystalline SnSe. Applied Physics Letters, 2018, 112, .	3.3	24
29	Electron Density Optimization and the Anisotropic Thermoelectric Properties of Ti Self-Intercalated Ti_{1+x}S₂ Compounds. ACS Applied Materials & Interfaces, 2018, 10, 32344-32354.	8.0	23
30	Ultrafast Synthesis and Thermoelectric Properties of Mn_{1+x}Te Compounds. ACS Applied Materials & Interfaces, 2018, 10, 25519-25528.	8.0	22
31	Optimizing the average power factor of p-type (Na, Ag) co-doped polycrystalline SnSe. RSC Advances, 2019, 9, 7115-7122.	3.6	20
32	Thickness-dependent electronic transport induced by in situ transformation of point defects in MBE-grown Bi2Te3 thin films. Applied Physics Letters, 2020, 117, .	3.3	19
33	Enhanced Thermoelectric Properties of Codoped Cr2Se3: The Distinct Roles of Transition Metals and S. ACS Applied Materials & Interfaces, 2018, 10, 22389-22400.	8.0	18
34	Bridging the miscibility gap towards higher thermoelectric performance of PbS. Acta Materialia, 2021, 220, 117337.	7.9	17
35	Rationally optimized carrier effective mass and carrier density leads to high average ZT value in n-type PbSe. Journal of Materials Chemistry A, 2021, 9, 23011-23018.	10.3	15
36	Structure and thermoelectric properties of 2D Cr₂Se_{3â”3x}S_{3x} solid solutions. Journal of Materials Chemistry C, 2018, 6, 836-846.	5.5	13

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37	Fine-tuning the solid-state ordering and thermoelectric performance of regioregular P3HT analogues by sequential oxygen-substitution of carbon atoms along the alkyl side chains. Journal of Materials Chemistry C, 2019, 7, 2333-2344.	5.5	13
38	Weyl Semimetal States Generated Extraordinary Quasiâ€Linear Magnetoresistance and Nernst Thermoelectric Power Factor in Polycrystalline NbP. Advanced Functional Materials, 2022, 32, .	14.9	13
39	Enhanced Mechanical Properties of Na_{0.02}Pb_{0.98}Te/MoTe₂ Thermoelectric Composites Through in-Situ-Formed MoTe₂. ACS Applied Materials & Interfaces, 2019, 11, 41472-41481.	8.0	12
40	Identifying the Origins of High Thermoelectric Performance in Group IIIA Element Doped PbS. ACS Applied Materials & Interfaces, 2020, 12, 14203-14212.	8.0	12
41	Self-propagating high-temperature synthesis and thermoelectric performances of Cu2SnSe3. Journal of Alloys and Compounds, 2018, 750, 965-971.	5.5	11
42	Impurity states in Mo_{1â^'x}M_xSe₂ compounds doped with group VB elements and their electronic and thermal transport properties. Journal of Materials Chemistry C, 2020, 8, 619-629.	5.5	11
43	Epitaxial growth and improved electronic properties of (Bi1â^'Sb)2Te3 thin films grown on sapphire (0001) substrates: The influence of Sb content and the annealing. Journal of Alloys and Compounds, 2015, 647, 50-56.	5.5	10
44	Synergistically Improved Electronic and Thermal Transport Properties in Nb-Doped Nb_yMo_{1â€“y}Se_{2â€“2x}Te_{2x} Solid Solutions Due to Alloy Phonon Scattering and Increased Valley Degeneracy. ACS Applied Materials & Interfaces, 2019, 11, 26069-26081.	8.0	9
45	One-step ultra-rapid fabrication and thermoelectric properties of Cu₂Se bulk thermoelectric material. RSC Advances, 2019, 9, 10508-10519.	3.6	9
46	Synergistically Enhanced Thermoelectric Performance of Cu₂SnSe₃-Based Composites via Ag Doping Balance. ACS Applied Materials & Interfaces, 2021, 13, 55178-55187.	8.0	9
47	Origins of enhanced thermoelectric power factor in topologically insulating Bi0.64Sb1.36Te3 thin films. Applied Physics Letters, 2016, 108, .	3.3	8
48	Tendency of Gap Opening in Semimetal 1Tâ€²â€MoTe₂ with Proximity to a 3D Topological Insulator. Advanced Functional Materials, 2021, 31, 2103384.	14.9	8
49	Enhanced Thermoelectric Properties of Cu₂SnSe₃-Based Materials with Ag₂Se Addition. ACS Applied Materials & Interfaces, 2022, 14, 5439-5446.	8.0	7
50	Structure and Improved Thermoelectric Properties of Ag_{2x}Cr_{2â€“2x}Se₃ Compounds. Inorganic Chemistry, 2018, 57, 12125-12131.	4.0	5
51	Evolution of atomic structure and electronic transport properties in n-type Bi2Te3 films via Bi2 planar defects. Applied Physics Letters, 2021, 118, 103901.	3.3	4
52	Strong Anisotropy and Bipolar Conduction-Dominated Thermoelectric Transport Properties in the Polycrystalline Topological Phase of ZrTe₅. Inorganic Chemistry, 2021, 60, 8890-8897.	4.0	4
53	High band degeneracy and weak chemical bonds leading to enhanced thermoelectric transport properties in 2Hâ€“MoTe2. Journal of Solid State Chemistry, 2021, 300, 122227.	2.9	2
54	Native Atomic Defects Manipulation for Enhancing the Electronic Transport Properties of Epitaxial SnTe Films. ACS Applied Materials & Interfaces, 2021, 13, 56446-56455.	8.0	2