Hongyao Xie

List of Publications by Year
in descending order

43 papers	2,603 citations	236925 25 h-index	254184 43 g-index
43 all docs	43 docs citations	43 times ranked	1928 citing authors

#	Article	IF	Citations
1	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
2	Mechanically Robust BiSbTe Alloys with Superior Thermoelectric Performance: A Case Study of Stable Hierarchical Nanostructured Thermoelectric Materials. Advanced Energy Materials, 2015, 5, 1401391.	19.5	304
3	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
4	All-Inorganic Halide Perovskites as Potential Thermoelectric Materials: Dynamic Cation off-Centering Induces Ultralow Thermal Conductivity. Journal of the American Chemical Society, 2020, 142, 9553-9563.	13.7	155
5	The Role of Zn in Chalcopyrite CuFeS₂: Enhanced Thermoelectric Properties of Cu_{1â€“}<i>_x</i>Zn<i>_x</i>FeS₂ with In Situ Nanoprecipitates. Advanced Energy Materials, 2017, 7, 1601299.	19.5	147
6	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
7	3D Printing of highly textured bulk thermoelectric materials: mechanically robust BiSbTe alloys with superior performance. Energy and Environmental Science, 2019, 12, 3106-3117.	30.8	125
8	Manipulating the Combustion Wave during Self-Propagating Synthesis for High Thermoelectric Performance of Layered Oxychalcogenide Bi_{1â€“<i>x</i>}Pb_{<i>x</i>}CuSeO. Chemistry of Materials, 2016, 28, 4628-4640.	6.7	88
9	Enhanced ZT and attempts to chemically stabilize Cu₂Se via Sn doping. Journal of Materials Chemistry A, 2016, 4, 17225-17235.	10.3	84
10	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
11	High Thermoelectric Performance in the Wide Bandâ€Gap AgGa_{1â€}<i>_x</i>Te₂ Compounds: Directional Negative Thermal Expansion and Intrinsically Low Thermal Conductivity. Advanced Functional Materials, 2019, 29, 1806534.	14.9	65
12	High-Temperature Mechanical and Thermoelectric Properties of p-Type Bi0.5Sb1.5Te3 Commercial Zone Melting Ingots. Journal of Electronic Materials, 2014, 43, 2017-2022.	2.2	57
13	Ultralow thermal conductivity in diamondoid lattices: high thermoelectric performance in chalcopyrite Cu_{0.8+y}Ag_{0.2}In_{1âˆ’y}Te₂. Energy and Environmental Science, 2020, 13, 3693-3705.	30.8	52
14	Understanding the combustion process for the synthesis of mechanically robust SnSe thermoelectrics. Nano Energy, 2018, 44, 53-62.	16.0	51
15	Origin of Intrinsically Low Thermal Conductivity in Talnakhite Cu_{17.6}Fe_{17.6}S₃₂ Thermoelectric Material: Correlations between Lattice Dynamics and Thermal Transport. Journal of the American Chemical Society, 2019, 141, 10905-10914.	13.7	50
16	Origin of the Distinct Thermoelectric Transport Properties of Chalcopyrite ABTe₂ (A) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	14.9	50
17	Realization of non-equilibrium process for high thermoelectric performance Sb-doped GeTe. Science Bulletin, 2018, 63, 717-725.	9.0	49
18	Ultralow Thermal Conductivity in Diamondoid Structures and High Thermoelectric Performance in (Cu_{1â€“<i>x</i>}Ag_{<i>x</i>})(In_{1â€“<i>y</i>}Ga_{<i>y</i>})Te₂. Journal of the American Chemical Society, 2021, 143, 5978-5989.	13.7	49

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19	Phase Segregation and Superior Thermoelectric Properties of Mg₂Si_{1â€“<i>x</i>}Sb_{<i>x</i>} (0 â‰ <i>x</i> â‰ 0.025) Prepared by Ultrafast Self-Propagating High-Temperature Synthesis. ACS Applied Materials & Interfaces, 2016, 8, 3268-3276.	8.0	45
20	Nonmagnetic In Substituted CuFe_{1â€“<i>x</i>}In_{<i>x</i>}S₂ Solid Solution Thermoelectric. Journal of Physical Chemistry C, 2016, 120, 27895-27902.	3.1	42
21	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
22	High Thermoelectric Performance through Crystal Symmetry Enhancement in Triply Doped Diamondoid Compound Cu₂SnSe₃. Advanced Energy Materials, 2021, 11, 2100661.	19.5	39
23	Thermoelectric performance of CuFeS2+2x composites prepared by rapid thermal explosion. NPG Asia Materials, 2017, 9, e390-e390.	7.9	38
24	High Thermoelectric Performance in Chalcopyrite Cu_{1â€“<i>x</i>}Ag_{<i>x</i>}GaTe₂â€“ZnTe: Nontrivial Band Structure and Dynamic Doping Effect. Journal of the American Chemical Society, 2022, 144, 9113-9125.	13.7	29
25	Unraveling the Critical Role of Melt-Spinning Atmosphere in Enhancing the Thermoelectric Performance of p-Type Bi_{0.52}Sb_{1.48}Te₃ Alloys. ACS Applied Materials & Interfaces, 2020, 12, 36186-36195.	8.0	28
26	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
27	Valence Disproportionation of GeS in the PbS Matrix Forms Pb₅Ge₅S₁₂ Inclusions with Conduction Band Alignment Leading to High n-Type Thermoelectric Performance. Journal of the American Chemical Society, 2022, 144, 7402-7413.	13.7	24
28	Electron Density Optimization and the Anisotropic Thermoelectric Properties of Ti Self-Intercalated Ti_{1+<i>x</i>}S₂ Compounds. ACS Applied Materials & Interfaces, 2018, 10, 32344-32354.	8.0	23
29	Optical phonon dominated heat transport: A first-principles thermal conductivity study of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>BaSnS</mml:mi><mml:mn>2</mml:mn></mml:msub></m Physical Review B, 2021, 104, .	3.2	23
30	Ultrafast Synthesis and Thermoelectric Properties of Mn_{1+<i>x</i>}Te Compounds. ACS Applied Materials & Interfaces, 2018, 10, 25519-25528.	8.0	22
31	Achieving superior performance in thermoelectric Bi0.4Sb1.6Te3.72 by enhancing texture and inducing high-density line defects. Science China Materials, 2021, 64, 1507-1520.	6.3	20
32	Hidden Local Symmetry Breaking in Silver Diamondoid Compounds is Root Cause of Ultralow Thermal Conductivity. Advanced Materials, 2022, 34, e2202255.	21.0	20
33	Weak-Bonding Elements Lead to High Thermoelectric Performance in BaSnS₃ and SrSnS₃: A First-Principles Study. Chemistry of Materials, 2022, 34, 1289-1301.	6.7	19
34	Low Thermal Conductivity in Heteroanionic Materials with Layers of Homoleptic Polyhedra. Journal of the American Chemical Society, 2022, 144, 2569-2579.	13.7	13
35	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
36	Impurity states in Mo_{1âˆ’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

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37	Thermoelectric Properties of Ga/Ag Codoped Type-III Ba₂₄Ge₁₀₀ Clathrates with in Situ Nanostructures. ACS Applied Materials & Interfaces, 2015, 7, 19172-19178.	8.0	10
38	Scalable nanomanufacturing of chalcogenide inks: a case study on thermoelectric Vâ€“VI nanoplates. Journal of Materials Chemistry A, 2021, 9, 22555-22562.	10.3	10
39	Synergistically Improved Electronic and Thermal Transport Properties in Nb-Doped Nb_{<i>y</i>}Mo_{1â€“<i>y</i>}Se_{2â€“2<i>x</i>}Te_{2<i>x</i>} Solid Solutions Due to Alloy Phonon Scattering and Increased Valley Degeneracy. ACS Applied Materials & Interfaces, 2019, 11, 26069-26081.	8.0	9
40	Synergistically Enhanced Thermoelectric Performance of Cu₂SnSe₃-Based Composites <i>via</i> Ag Doping Balance. ACS Applied Materials & Interfaces, 2021, 13, 55178-55187.	8.0	9
41	Quasilinear dispersion in electronic band structure and high Seebeck coefficient in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>CuFe</mml:mi><mml:msub><mml:mi mathvariant="normal">S</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math> -based thermoelectric materials. Physical Review Materials, 2020, 4, .	2.4	7
42	Enhanced Thermoelectric Properties of Cu₂SnSe₃-Based Materials with Ag₂Se Addition. ACS Applied Materials & Interfaces, 2022, 14, 5439-5446.	8.0	7
43	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