

Jun Mao

List of Publications by Year in descending order

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times ranked

3775
citing authors

#	ARTICLE	IF	CITATIONS
1	Passive Radiative Cooling Enables Improved Performance in Wearable Thermoelectric Generators. <i>Small</i> , 2022, 18, e2106875.	10.0	33
2	A sketch for super-thermoelectric materials. <i>Materials Today Physics</i> , 2022, 22, 100618.	6.0	8
3	Tuning the Carrier Scattering Mechanism by Rare-Earth Element Doping for High Average $\langle zT \rangle$ in $\text{Mg}_{3-x}\text{Sb}_{2-x}\text{Te}_3$ -Based Compounds. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 7022-7029.	8.0	16
4	Band convergence and phonon engineering to optimize the thermoelectric performance of CaCd_2Sb_2 . <i>Applied Physics Letters</i> , 2022, 120, .	3.3	2
5	Organic/Inorganic Hybrid Design as a Route for Promoting the $\text{Bi}_{0.5}\text{Sb}_{1.5}\text{Te}_3$ for High-Performance Thermoelectric Power Generation. <i>Advanced Functional Materials</i> , 2022, 32, .	14.9	13
6	Infinite coordination polymer for enhancing the thermoelectric performance of $\text{Bi}_{0.5}\text{Sb}_{1.5}\text{Te}_3$ for low-grade waste heat recovery. <i>Materials Today Energy</i> , 2022, 26, 100994.	4.7	7
7	Unsupervised machine learning for discovery of promising half-Heusler thermoelectric materials. <i>Npj Computational Materials</i> , 2022, 8, .	8.7	24
8	Electronic Topological Transition as a Route to Improve Thermoelectric Performance in $\text{Bi}_{0.5}\text{Sb}_{1.5}\text{Te}_3$. <i>Advanced Science</i> , 2022, 9, e2105709.	11.2	6
9	Thermodynamic approaches to determine the vacancy concentration in defective $\text{Nb}_{1-x}\text{CoSb}$ half-Heusler thermoelectric materials. <i>Acta Materialia</i> , 2022, 228, 117736.	7.9	5
10	Achieving High Thermoelectric Performance by NaSbTe_2 Alloying in GeTe for Simultaneous Suppression of Ge Vacancies and Band Tailoring. <i>Advanced Energy Materials</i> , 2022, 12, .	19.5	28
11	Mobility enhancement in heavily doped semiconductors via electron cloaking. <i>Nature Communications</i> , 2022, 13, 2482.	12.8	9
12	Low contact resistivity and excellent thermal stability of p-n type $\text{YbMg}_{0.8}\text{Zn}_{1.2}\text{Sb}_2/\text{FeSb}$ junction for thermoelectric applications. <i>Acta Materialia</i> , 2022, 235, 118066.	7.9	11
13	Band Modulation and Strain Fluctuation for Realizing High Average $\langle zT \rangle$ in GeTe . <i>Advanced Energy Materials</i> , 2022, 12, .	19.5	13
14	Entropy engineering in $\text{CaZn}_2\text{Sb}_2\text{-xYbMg}_2\text{Sb}_2$ Zintl alloys for enhanced thermoelectric performance. <i>Rare Metals</i> , 2022, 41, 2998-3004.	7.1	11
15	Achieving High Thermoelectric Performance in Severely Distorted YbCd_2Sb_2 . <i>Advanced Functional Materials</i> , 2022, 32, .	14.9	6
16	Thermoelectric cooling materials. <i>Nature Materials</i> , 2021, 20, 454-461.	27.5	360
17	Scalable synthesis of n-type $\text{Mg}_3\text{Sb}_2\text{-xBix}$ for thermoelectric applications. <i>Materials Today Physics</i> , 2021, 17, 100336.	6.0	27
18	Towards tellurium-free thermoelectric modules for power generation from low-grade heat. <i>Nature Communications</i> , 2021, 12, 1121.	12.8	118

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19	Using materials quality factor $B^* \cdot \hat{a}$ — for design of thermoelectric materials with multiple bands. <i>Materials Today Physics</i> , 2021, 18, 100371.	6.0	8
20	High thermoelectric energy conversion efficiency of a unicouple of n-type Mg ₃ Bi ₂ and p-type Bi ₂ Te ₃ . <i>Materials Today Physics</i> , 2021, 19, 100413.	6.0	51
21	Stabilizing the Optimal Carrier Concentration in Al/Sb-Codoped GeTe for High Thermoelectric Performance. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 45717-45725.	8.0	16
22	Thermoelectric Properties of Zintl Phase YbMg ₂ Sb ₂ . <i>Chemistry of Materials</i> , 2020, 32, 776-784.	6.7	40
23	Suppressed phase transition and enhanced thermoelectric performance in iodine-doped AgCuTe. <i>Nano Energy</i> , 2020, 77, 105297.	16.0	21
24	N-type Mg ₃ Sb ₂ -Bi with improved thermal stability for thermoelectric power generation. <i>Acta Materialia</i> , 2020, 201, 572-579.	7.9	60
25	Reliable N-type Mg _{3.2} Sb _{1.5} Bi _{0.49} Te _{0.01} /304 stainless steel junction for thermoelectric applications. <i>Acta Materialia</i> , 2020, 198, 25-34.	7.9	62
26	Intermediate-level doping strategy to simultaneously optimize power factor and phonon thermal conductivity for improving thermoelectric figure of merit. <i>Materials Today Physics</i> , 2020, 15, 100250.	6.0	20
27	Defect Engineering for Realizing p-Type AgBiSe ₂ with a Promising Thermoelectric Performance. <i>Chemistry of Materials</i> , 2020, 32, 3528-3536.	6.7	17
28	N-Type Mg ₃ Sb ₂ -Bi Alloys as Promising Thermoelectric Materials. <i>Research</i> , 2020, 2020, 1219461.	5.7	26
29	Balancing the anionic framework polarity for enhanced thermoelectric performance in YbMg ₂ Sb ₂ Zintl compounds. <i>Journal of Materiomics</i> , 2019, 5, 583-589.	5.7	25
30	High thermoelectric cooling performance of n-type Mg ₃ Bi ₂ -based materials. <i>Science</i> , 2019, 365, 495-498.	12.6	457
31	n-Type TaCoSn-Based Half-Heuslers as Promising Thermoelectric Materials. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 41321-41329.	8.0	44
32	Design of High-Performance Disordered Half-Heusler Thermoelectric Materials Using 18-Electron Rule. <i>Advanced Functional Materials</i> , 2019, 29, 1905044.	14.9	81
33	Large reduction of thermal conductivity leading to enhanced thermoelectric performance in p-type Mg ₃ Bi ₂ -YbMg ₂ Bi ₂ solid solutions. <i>Journal of Materials Chemistry C</i> , 2019, 7, 434-440.	5.5	26
34	Understanding the asymmetrical thermoelectric performance for discovering promising thermoelectric materials. <i>Science Advances</i> , 2019, 5, eaav5813.	10.3	52
35	Dilute Cu ₂ Te-alloying enables extraordinary performance of r-GeTe thermoelectrics. <i>Materials Today Physics</i> , 2019, 9, 100096.	6.0	74
36	Manipulation of Ni Interstitials for Realizing Large Power Factor in TiNiSn-Based Materials. <i>Advanced Electronic Materials</i> , 2019, 5, 1900166.	5.1	32

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37	Discovery of TaFeSb-based half-Heuslers with high thermoelectric performance. Nature Communications, 2019, 10, 270.	12.8	227
38	Joint effect of magnesium and yttrium on enhancing thermoelectric properties of n-type Zintl $Mg_3+Y_{0.02}Sb_{1.5}Bi_{0.5}$. Materials Today Physics, 2019, 8, 25-33.	6.0	82
39	Improved Thermoelectric Performance of Tellurium by Alloying with a Small Concentration of Selenium to Decrease Lattice Thermal Conductivity. ACS Applied Materials & Interfaces, 2019, 11, 511-516.	8.0	8
40	Lead Chalcogenide Thermoelectric Materials. , 2019, , 83-104.		1
41	1-2-2 Layered Zintl-Phase Thermoelectric Materials. , 2019, , 159-175.		0
42	Deep defect level engineering: a strategy of optimizing the carrier concentration for high thermoelectric performance. Energy and Environmental Science, 2018, 11, 933-940.	30.8	188
43	Nano-microstructural control of phonon engineering for thermoelectric energy harvesting. MRS Bulletin, 2018, 43, 181-186.	3.5	111
44	Study on anisotropy of n-type Mg_3Sb_2 -based thermoelectric materials. Applied Physics Letters, 2018, 112, .	3.3	36
45	Seeded growth of boron arsenide single crystals with high thermal conductivity. Applied Physics Letters, 2018, 112, .	3.3	43
46	Significant Role of Mg Stoichiometry in Designing High Thermoelectric Performance for $Mg_{3-x}(Sb,Bi)_2$ -Based n-Type Zintl. Journal of the American Chemical Society, 2018, 140, 1910-1915.	13.7	125
47	Ultrahigh Power Factor in Thermoelectric System $Nb_{0.95}M_{0.05}FeSb$ (M = Hf, Tj ETQq1 1,0,784314 rgBT /Cw	11.2	45
48	Large thermoelectric power factor from crystal symmetry-protected non-bonding orbital in half-Heuslers. Nature Communications, 2018, 9, 1721.	12.8	111
49	Self-compensation induced vacancies for significant phonon scattering in InSb. Nano Energy, 2018, 48, 189-196.	16.0	30
50	High thermoelectric performance of $\hat{1}\pm$ - $MgAgSb$ for power generation. Energy and Environmental Science, 2018, 11, 23-44.	30.8	127
51	Significantly enhanced thermoelectric properties of p-type Mg_3Sb_2 via co-doping of Na and Zn. Acta Materialia, 2018, 143, 265-271.	7.9	82
52	Advances in thermoelectrics. Advances in Physics, 2018, 67, 69-147.	14.4	383
53	Phase-transition temperature suppression to achieve cubic GeTe and high thermoelectric performance by Bi and Mn codoping. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 5332-5337.	7.1	183
54	Discovery of ZrCoBi based half Heuslers with high thermoelectric conversion efficiency. Nature Communications, 2018, 9, 2497.	12.8	243

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55	The microscopic origin of low thermal conductivity for enhanced thermoelectric performance of Yb doped MgAgSb. <i>Acta Materialia</i> , 2017, 128, 227-234.	7.9	49
56	Tuning the carrier scattering mechanism to effectively improve the thermoelectric properties. <i>Energy and Environmental Science</i> , 2017, 10, 799-807.	30.8	326
57	Filling fraction of Yb in CoSb ₃ Skutterudite studied by electron microscopy. <i>Applied Physics Letters</i> , 2017, 110, .	3.3	7
58	Thermoelectric Properties of n-type ZrNiPb-Based Half-Heuslers. <i>Chemistry of Materials</i> , 2017, 29, 867-872.	6.7	69
59	Phonon scattering by nanoscale twin boundaries. <i>Nano Energy</i> , 2017, 32, 174-179.	16.0	77
60	Anomalous electrical conductivity of n-type Te-doped Mg ₃ 2Sb1.5Bi0.5. <i>Materials Today Physics</i> , 2017, 3, 1-6.	6.0	82
61	Tellurium doped n-type Zintl Zr ₃ Ni ₃ Sb ₄ thermoelectric materials: Balance between carrier-scattering mechanism and bipolar effect. <i>Materials Today Physics</i> , 2017, 2, 54-61.	6.0	64
62	Manipulation of ionized impurity scattering for achieving high thermoelectric performance in n-type Mg ₃ Sb ₂ -based materials. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 10548-10553.	7.1	267
63	Comparative studies on thermoelectric properties of p-type Mg ₂ Sn _{0.75} Ge _{0.25} doped with lithium, sodium, and gallium. <i>Acta Materialia</i> , 2017, 141, 154-162.	7.9	40
64	Defect Engineering for Realizing High Thermoelectric Performance in n-Type Mg ₃ Sb ₂ -Based Materials. <i>ACS Energy Letters</i> , 2017, 2, 2245-2250.	17.4	181
65	Improved thermoelectric performance of n-type half-Heusler MCo _{1-x} NixSb (M=Hf, Zr). <i>Materials Today Physics</i> , 2017, 1, 24-30.	6.0	148
66	Recent progress and future challenges on thermoelectric Zintl materials. <i>Materials Today Physics</i> , 2017, 1, 74-95.	6.0	275
67	The influence of doping sites on achieving higher thermoelectric performance for nanostructured $\hat{\Gamma}$ -MgAgSb. <i>Nano Energy</i> , 2017, 31, 194-200.	16.0	52
68	The effect of charge carrier and doping site on thermoelectric properties of Mg ₂ Sn _{0.75} Ge _{0.25} . <i>Acta Materialia</i> , 2017, 124, 528-535.	7.9	21
69	Mechanical properties of nanostructured thermoelectric materials $\hat{\Gamma}$ -MgAgSb. <i>Scripta Materialia</i> , 2017, 127, 72-75.	5.2	72
70	Thermoelectric performance enhancement of Mg ₂ Sn based solid solutions by band convergence and phonon scattering via Pb and Si/Ge substitution for Sn. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 20726-20737.	2.8	30
71	Size effect in thermoelectric materials. <i>Npj Quantum Materials</i> , 2016, 1, .	5.2	205
72	Carrier distribution in multi-band materials and its effect on thermoelectric properties. <i>Journal of Materiomics</i> , 2016, 2, 203-211.	5.7	23

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73	Thermoelectric performance of Li doped, p-type Mg ₂ (Ge,Sn) and comparison with Mg ₂ (Si,Sn). Acta Materialia, 2016, 120, 273-280.	7.9	56
74	Understanding and manipulating the intrinsic point defect in $\hat{1}\pm$ -MgAgSb for higher thermoelectric performance. Journal of Materials Chemistry A, 2016, 4, 16834-16840.	10.3	49
75	Achieving high power factor and output power density in p-type half-Heuslers Nb _{1-x} Ti _x FeSb. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 13576-13581.	7.1	213
76	Scalable solution-phase epitaxial growth of symmetry-mismatched heterostructures on two-dimensional crystal soft template. Science Advances, 2016, 2, e1600993.	10.3	52
77	Enhancement of thermoelectric performance of phase pure Zintl compounds Ca _{1-x} Yb Zn ₂ Sb ₂ , Ca _{1-x} Eu Zn ₂ Sb ₂ , and Eu _{1-x} Yb Zn ₂ Sb ₂ by mechanical alloying and hot pressing. Nano Energy, 2016, 25, 136-144.	16.0	67
78	Thermoelectric properties of n-type half-Heusler compounds (Hf _{0.25} Zr _{0.75}) _{1-x} Nb NiSn. Acta Materialia, 2016, 113, 41-47.	7.9	54
79	Lithium Doping to Enhance Thermoelectric Performance of MgAgSb with Weak Electron-Phonon Coupling. Advanced Energy Materials, 2016, 6, 1502269.	19.5	122
80	Thermoelectric properties of Bi-based Zintl compounds Ca _{1-x} Yb _x Mg ₂ Bi ₂ . Journal of Materials Chemistry A, 2016, 4, 4312-4320.	10.3	92
81	Studies on thermoelectric figure of merit of Na-doped p-type polycrystalline SnSe. Journal of Materials Chemistry A, 2016, 4, 1848-1854.	10.3	210
82	Thermoelectric properties of materials near the band crossing line in Mg ₂ Sn-Mg ₂ Ge-Mg ₂ Si system. Acta Materialia, 2016, 103, 633-642.	7.9	104
83	Effects of antimony content in MgAg _{0.97} Sb _x on output power and energy conversion efficiency. Acta Materialia, 2016, 102, 17-23.	7.9	45
84	The effect of nickel doping on electron and phonon transport in the n-type nanostructured thermoelectric material CoSbS. Journal of Materials Chemistry C, 2015, 3, 10442-10450.	5.5	47
85	High thermoelectric power factor in Cu-Ni alloy originate from potential barrier scattering of twin boundaries. Nano Energy, 2015, 17, 279-289.	16.0	81
86	Contrasting the Role of Mg and Ba Doping on the Microstructure and Thermoelectric Properties of p-Type AgSbSe ₂ . ACS Applied Materials & Interfaces, 2015, 7, 23047-23055.	8.0	29
87	Boosting Total Conversion Efficiency of Hybrid PVT <i>via</i> a Spectral Splitter/Absorber Based on Lossy Periodic Structured Media. Solar Rrl, 0, , .	5.8	3