

Extraordinary thermoelectric performance in n-type m  
band degeneracy, tuned carrier scattering mechanism a

Nano Energy

52, 246-255

DOI: [10.1016/j.nanoen.2018.07.059](https://doi.org/10.1016/j.nanoen.2018.07.059)

Citation Report

#	ARTICLE	IF	CITATIONS
1	Heat capacity of Mg <sub>3</sub> Sb <sub>2</sub> , Mg <sub>3</sub> Bi <sub>2</sub> , and their alloys at high temperature. Materials Today Physics, 2018, 6, 83-88.	6.0	87
2	Defect Chemistry for N-Type Doping of Mg <sub>3</sub> Sb <sub>2</sub> -Based Thermoelectric Materials. Journal of Physical Chemistry C, 2019, 123, 20781-20788.	3.1	23
3	Fermi surface complexity, effective mass, and conduction band alignment in n-type thermoelectric Mg <sub>3</sub> Sb <sub>2</sub> Bi <sub>x</sub> from first principles calculations. Journal of Applied Physics, 2019, 126, .	2.5	41
4	Insights into the design of thermoelectric Mg <sub>3</sub> Sb <sub>2</sub> and its analogs by combining theory and experiment. Npj Computational Materials, 2019, 5, .	8.7	111
5	Revelation of Inherently High Mobility Enables Mg <sub>3</sub> Sb <sub>2</sub> as a Sustainable Alternative to Bi <sub>2</sub> Te <sub>3</sub> Thermoelectrics. Advanced Science, 2019, 6, 1802286.	11.2	71
6	Promising materials for thermoelectric applications. Journal of Alloys and Compounds, 2019, 806, 471-486.	5.5	76
7	Multiscale Defects as Strong Phonon Scatters to Enhance Thermoelectric Performance in Mg <sub>2</sub> Sn <sub>1-x</sub> Sb <sub>x</sub> Solid Solutions. Small Methods, 2019, 3, 1900412.	8.6	16
8	Band structure and thermoelectric properties of Al-doped Mg <sub>3-<i>x</i></sub> Al <sub><i>x</i></sub> Sb <sub>2</sub> compounds. Journal of Materials Science: Materials in Electronics, 2019, 30, 15206-15213.	2.2	8
9	The manipulation of substitutional defects for realizing high thermoelectric performance in Mg <sub>3</sub> Sb <sub>2</sub> -based Zintl compounds. Journal of Materials Chemistry A, 2019, 7, 19316-19323.	10.3	45
10	DFT prediction of the structural, electronic, thermoelectric and optical properties of ternary pnictides MgBe <sub>2</sub> X <sub>2</sub> (X = N, P, As, Sb, Bi): A novel analysis of beryllium with 2A- and 5B-Elements of the structure type CaAl <sub>2</sub> Si <sub>2</sub> . Solid State Communications, 2019, 300, 113667.	1.9	13
11	Extraordinary n-Type Mg <sub>3</sub> SbBi Thermoelectrics Enabled by Yttrium Doping. Advanced Materials, 2019, 31, e1903387.	21.0	120
12	Efficient Sc-Doped Mg <sub>3.05</sub> Sc <sub><i>x</i></sub> SbBi Thermoelectrics Near Room Temperature. Chemistry of Materials, 2019, 31, 8987-8994.	6.7	55
13	High Power Factor vs. High <i>zT</i> : A Review of Thermoelectric Materials for High-Temperature Application. Entropy, 2019, 21, 1058.	2.2	105
14	Effectively restricting MnSi precipitates for simultaneously enhancing the Seebeck coefficient and electrical conductivity in higher manganese silicide. Journal of Materials Chemistry C, 2019, 7, 7212-7218.	5.5	8
15	Enhanced thermoelectric properties of YbZn <sub>2</sub> Sb <sub>2-<i>x</i></sub> Bi <sub><i>x</i></sub> through a synergistic effect via Bi-doping. Chemical Engineering Journal, 2019, 374, 589-595.	12.7	38
16	Seeing atomic-scale structural origins and foreseeing new pathways to improved thermoelectric materials. Materials Horizons, 2019, 6, 1548-1570.	12.2	27
17	Tunable morphology, bandgap, photocatalysis and magnetic properties of Bi <sub>6</sub> Fe <sub>2</sub> Ti <sub>3</sub> O <sub>18</sub> nanocrystals by doping cobalt ions. Journal of Alloys and Compounds, 2019, 799, 474-480.	5.5	14
18	Significant enhancement in thermoelectric performance of Mg <sub>3</sub> Sb <sub>2</sub> from bulk to two-dimensional mono layer. Nano Energy, 2019, 62, 212-219.	16.0	100

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19	Maximization of transporting bands for high-performance SnTe alloy thermoelectrics. <i>Materials Today Physics</i> , 2019, 9, 100091.	6.0	45
20	Extraordinary thermoelectric performance in MgAgSb alloy with ultralow thermal conductivity. <i>Nano Energy</i> , 2019, 59, 311-320.	16.0	59
21	Enhanced Thermoelectric Properties of n-Type $\text{Mg}_{3-x}\text{Sb}_{2-x}\text{Te}_{1+x}$ by Excess Magnesium and Tellurium Doping. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2019, 216, 1800811.	1.8	18
22	Realizing tremendous electrical transport properties of polycrystalline SnSe <sub>2</sub> by Cl-doped and anisotropy. <i>Ceramics International</i> , 2019, 45, 82-89.	4.8	22
23	Joint effect of magnesium and yttrium on enhancing thermoelectric properties of n-type Zintl $\text{Mg}_{3-x}\text{Y}_{0.02}\text{Sb}_{1.5}\text{Bi}_{0.5}$ . <i>Materials Today Physics</i> , 2019, 8, 25-33.	6.0	82
24	$\text{Mg}_{3-x}\text{Sb}_{2-x}\text{Bi}_x$ Family: A Promising Substitute for the State-of-the-Art n-Type Thermoelectric Materials near Room Temperature. <i>Advanced Functional Materials</i> , 2019, 29, 1807235.	14.9	98
25	Discordant nature of Cd in PbSe: off-centering and core-shell nanoscale CdSe precipitates lead to high thermoelectric performance. <i>Energy and Environmental Science</i> , 2020, 13, 200-211.	30.8	57
26	Ternary thermoelectric AB <sub>2</sub> C <sub>2</sub> Zintl. <i>Journal of Alloys and Compounds</i> , 2020, 821, 153497.	5.5	19
27	Enhanced thermoelectric properties in MgAgSb composite with $\text{Ag}_3\text{Sb}$ fabricated by the microwave-assisted process and subsequent spark plasma sintering. <i>Advances in Applied Ceramics</i> , 2020, 119, 107-113.	1.1	4
28	High-Performance n-Type $\text{Mg}_{3-x}\text{Sb}_{2-x}$ towards Thermoelectric Application near Room Temperature. <i>Advanced Functional Materials</i> , 2020, 30, 1906143.	14.9	78
29	Enhanced electrical transport performance through cation site doping in Y-doped $\text{Mg}_{3.2}\text{Sb}_2$ . <i>Journal of Materiomics</i> , 2020, 6, 216-223.	5.7	12
30	Point defect engineering and machinability in n-type $\text{Mg}_3\text{Sb}_2$ -based materials. <i>Materials Today Physics</i> , 2020, 15, 100269.	6.0	46
31	N-type $\text{Mg}_3\text{Sb}_2\text{-Bi}$ with improved thermal stability for thermoelectric power generation. <i>Acta Materialia</i> , 2020, 201, 572-579.	7.9	60
32	Ecofriendly Highly Robust $\text{Ag}_8\text{SiSe}_6$ -Based Thermoelectric Composites with Excellent Performance Near Room Temperature. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 54653-54661.	8.0	18
33	Probing Efficient n-Type Lanthanide Dopants for $\text{Mg}_{3-x}\text{Sb}_{2-x}$ Thermoelectrics. <i>Advanced Science</i> , 2020, 7, 2002867.	11.2	23
34	SrTiO <sub>3</sub> -based thermoelectrics: Progress and challenges. <i>Nano Energy</i> , 2020, 78, 105195.	16.0	127
35	Enhanced Average Thermoelectric Figure of Merit of p-Type Zintl Phase $\text{Mg}_2\text{ZnSb}_2$ via Zn Vacancy Tuning and Hole Doping. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 37330-37337.	8.0	10
36	Rational structural design and manipulation advance SnSe thermoelectrics. <i>Materials Horizons</i> , 2020, 7, 3065-3096.	12.2	73

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37	Routes for advancing SnTe thermoelectrics. Journal of Materials Chemistry A, 2020, 8, 16790-16813.	10.3	87
38	Enhanced thermoelectric performance of P-type CaMg <sub>2</sub> Bi <sub>1.98</sub> and optimized CaAl <sub>2</sub> Si <sub>2</sub> -type Zintl phase module with equal cross-section area. Materials Today Physics, 2020, 15, 100270.	6.0	19
39	Geometry Optimization of Thermoelectric Modules: Deviation of Optimum Power Output and Conversion Efficiency. Entropy, 2020, 22, 1233.	2.2	10
40	Power Conversion and Its Efficiency in Thermoelectric Materials. Entropy, 2020, 22, 803.	2.2	18
41	Hierarchical Structures Advance Thermoelectric Properties of Porous n-type $\text{I}^2\text{-Ag}_{\text{2}}$ Se. ACS Applied Materials & Interfaces, 2020, 12, 51523-51529.	8.0	51
42	Mg <sub>3</sub> (Bi,Sb) <sub>2</sub> single crystals towards high thermoelectric performance. Energy and Environmental Science, 2020, 13, 1717-1724.	30.8	91
43	Ceramic-based thermoelectric generator processed via spray-coating and laser structuring. Open Ceramics, 2020, 1, 100002.	2.0	6
44	Thermoelectric Enhancements in PbTe Alloys Due to Dislocation-Induced Strains and Converged Bands. Advanced Science, 2020, 7, 1902628.	11.2	78
45	Charge compensation weakening ionized impurity scattering and assessing the minority carrier contribution to the Seebeck coefficient in Pb-doped Mg <sub>3</sub> Sb <sub>2</sub> compounds. Physical Chemistry Chemical Physics, 2020, 22, 7012-7020.	2.8	10
46	Inorganic thermoelectric materials: A review. International Journal of Energy Research, 2020, 44, 6170-6222.	4.5	119
47	Effect of group-3 elements doping on promotion of in-plane Seebeck coefficient of n-type Mg <sub>3</sub> Sb <sub>2</sub> . Journal of Materiomics, 2020, 6, 274-279.	5.7	13
48	Realizing a High $ZT$ of 1.6 in N-Type Mg <sub>3</sub> Sb <sub>2</sub> -Based Zintl Compounds through Mn and Se Codoping. ACS Applied Materials & Interfaces, 2020, 12, 21799-21807.	8.0	26
49	Enhanced thermoelectric properties of Zintl phase YbMg <sub>2</sub> Bi <sub>1.98</sub> through Bi site substitution with Sb. Journal of Materials Science and Technology, 2020, 59, 189-194.	10.7	16
50	Advanced Thermoelectric Design: From Materials and Structures to Devices. Chemical Reviews, 2020, 120, 7399-7515.	47.7	1,248
51	Promoted application potential of p-type Mg <sub>3</sub> Sb <sub>1.5</sub> Bi <sub>0.5</sub> for the matched thermal expansion with its n-type counterpart. Journal of Materiomics, 2020, 6, 729-735.	5.7	13
52	Metallic n-Type Mg <sub>3</sub> Sb <sub>2</sub> Single Crystals Demonstrate the Absence of Ionized Impurity Scattering and Enhanced Thermoelectric Performance. Advanced Materials, 2020, 32, e1908218.	21.0	116
53	Enhanced Thermoelectric Properties of p-Type CaMg <sub>2</sub> Bi <sub>2</sub> via a Synergistic Effect Originated from Zn and Alkali-Metal Co-doping. ACS Applied Materials & Interfaces, 2020, 12, 6015-6021.	8.0	20
54	Promising and Eco-Friendly Cu <sub>2</sub> X-Based Thermoelectric Materials: Progress and Applications. Advanced Materials, 2020, 32, e1905703.	21.0	165

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55	Enhancing the Thermoelectric Performance of p-Type $\text{Mg}_{3-x}\text{Sb}_{2+x}\text{Te}$ via Codoping of Li and Cd. ACS Applied Materials & Interfaces, 2020, 12, 8359-8365.	8.0	54
56	Significant role of nanoscale Bi-rich phase in optimizing thermoelectric performance of $\text{Mg}_{3-x}\text{Sb}_{2+x}\text{Te}$ . Chinese Physics B, 2020, 29, 067201.	1.4	6
57	Anisotropic thermoelectric figure-of-merit in $\text{Mg}_3\text{Sb}_2$ . Materials Today Physics, 2020, 13, 100217.	6.0	36
58	Optimizing the thermoelectric performance of p-type $\text{Mg}_3\text{Sb}_2$ by Sn doping. Vacuum, 2020, 177, 109388.	3.5	28
59	Improved thermoelectric performance of n-type $\text{Mg}_3\text{Sb}_2$ - $\text{Mg}_3\text{Bi}_2$ alloy with Co element doping. Current Applied Physics, 2021, 21, 25-30.	2.4	13
60	Rational band engineering and structural manipulations inducing high thermoelectric performance in n-type $\text{CoSb}_3$ thin films. Nano Energy, 2021, 81, 105683.	16.0	82
61	Scalable synthesis of n-type $\text{Mg}_3\text{Sb}_2$ - $\text{Bi}_2\text{Te}_3$ for thermoelectric applications. Materials Today Physics, 2021, 17, 100336.	6.0	27
62	Enhanced thermoelectric performance in $\text{Mg}_{3-x}\text{Sb}_{2+x}\text{Te}$ via $\text{Bi}_{0.49}\text{Te}_{0.01}$ engineering microstructure through melt-centrifugation. Journal of Materials Chemistry A, 2021, 9, 1733-1742.	10.3	20
63	Strategies for improving efficiency of thermoelectric materials. , 2021, , 117-138.		0
64	Excellent thermoelectric performance of boron-doped n-type $\text{Mg}_3\text{Sb}_2$ -based materials via the manipulation of grain boundary scattering and control of Mg content. Science China Materials, 2021, 64, 1761-1769.	6.3	26
65	Improving thermoelectric performance of indium thiospinel by Se- and Te-substitution. Journal of Materials Chemistry C, 2021, 9, 4008-4019.	5.5	7
66	Research progress of two-dimensional covalent bond substructure Zintl phase thermoelectric materials. Wuli Xuebao/Acta Physica Sinica, 2021, 70, 207304.	0.5	1
67	Energy Harvesters for Wearable Electronics and Biomedical Devices. Advanced Materials Technologies, 2021, 6, 2000771.	5.8	49
68	CALPHAD as a powerful technique for design and fabrication of thermoelectric materials. Journal of Materials Chemistry A, 2021, 9, 6634-6649.	10.3	16
69	$\text{Sr}_9\text{Mg}_{4.45(1)}\text{Bi}_9$ and $\text{Sr}_9\text{Mg}_{4.42(1)}\text{Sb}_9$ : Mg-Containing Zintl Phases with Low Thermal Conductivity. Inorganic Chemistry, 2021, 60, 4026-4033.	4.0	10
70	High thermoelectric performance at room temperature of n-type $\text{Mg}_3\text{Bi}_2$ -based materials by Se doping. Journal of Magnesium and Alloys, 2022, 10, 1024-1032.	11.9	18
71	Pressure effects on the electrical transport and anharmonic lattice dynamics of $\text{r-GeTe}$ : A first-principles study. Journal of Materiomics, 2021, 7, 1190-1197.	5.7	7
72	Manipulation of Defects for High-Performance Thermoelectric $\text{PbTe}$ -Based Alloys. Small Structures, 2021, 2, 2100016.	12.0	10

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73	Compromise between band structure and phonon scattering in efficient n-Mg <sub>3</sub> Sb <sub>2</sub> -Bi thermoelectrics. Materials Today Physics, 2021, 18, 100362.	6.0	41
74	Structural Evolution of High-Performance Mn-Alloyed Thermoelectric Materials: A Case Study of SnTe. Small, 2021, 17, e2100525.	10.0	21
75	Demonstration of ultrahigh thermoelectric efficiency of $\sim 147.3\%$ in Mg <sub>3</sub> Sb <sub>2</sub> /MgAgSb module for low-temperature energy harvesting. Joule, 2021, 5, 1196-1208.	24.0	205
76	Nb-Mediated Grain Growth and Grain-Boundary Engineering in Mg <sub>3</sub> Sb <sub>2</sub> -Based Thermoelectric Materials. Advanced Functional Materials, 2021, 31, 2100258.	14.9	53
77	Progress in the Research on Promising High-Performance Thermoelectric Materials. Nanobiotechnology Reports, 2021, 16, 268-281.	0.6	3
78	Backbone Effects on the Thermoelectric Properties of Ultra-Small Bandgap Conjugated Polymers. Polymers, 2021, 13, 2486.	4.5	1
79	High thermoelectric energy conversion efficiency of a unicouple of n-type Mg <sub>3</sub> Bi <sub>2</sub> and p-type Bi <sub>2</sub> Te <sub>3</sub> . Materials Today Physics, 2021, 19, 100413.	6.0	51
80	Room-temperature thermoelectric materials: Challenges and a new paradigm. Journal of Materiomics, 2022, 8, 427-436.	5.7	34
81	Rare Earth Element Doping Introduces Pores to Improve Thermoelectric Properties of p-Type Bi <sub>0.46</sub> Sb <sub>1.54</sub> Te <sub>3</sub> . ACS Applied Energy Materials, 2021, 4, 9751-9757.	5.1	3
82	Boosting the thermoelectric performance of n-type Bi <sub>2</sub> S <sub>3</sub> by hierarchical structure manipulation and carrier density optimization. Nano Energy, 2021, 87, 106171.	16.0	39
83	Morphology and Thermoelectric Properties of Mg <sub>3+<math>\delta</math></sub> Sb <sub>2</sub> Foams Manufactured Using Combustion Synthesis. Funtai Oyobi Fummatsu Yakin/Journal of the Japan Society of Powder and Powder Metallurgy, 2021, 68, 399-404.	0.2	0
84	Enhanced thermoelectric properties of Cu <sub>2-x</sub> Se by coordinating carrier concentration to reduce thermal conductivity. Ceramics International, 2022, 48, 248-255.	4.8	4
85	Depressed lattice oxygen and improved thermoelectric performance in N-type Mg <sub>3</sub> Bi <sub>2</sub> -Sb via La-doping. Materials Today Physics, 2021, 21, 100485.	6.0	6
86	Visualizing the Mg atoms in Mg <sub>3</sub> Sb <sub>2</sub> thermoelectrics using advanced iDPC-STEM technique. Materials Today Physics, 2021, 21, 100524.	6.0	11
87	Band convergence and thermoelectric performance enhancement of InSb via Bi doping. Intermetallics, 2021, 139, 107347.	3.9	8
88	Enhanced Thermoelectric Performance in N-Type Mg <sub>3.2</sub> Sb <sub>1.5</sub> Bi <sub>0.5</sub> by La or Ce Doping into Mg. Advanced Electronic Materials, 2020, 6, 1901391.	5.1	15
89	N-Type Mg <sub>3</sub> Sb <sub>2-x</sub> Bi <sub>x</sub> Alloys as Promising Thermoelectric Materials. Research, 2020, 2020, 1219461.	5.7	26
90	The Electronic Transport Channel Protection and Tuning in Real Space to Boost the Thermoelectric Performance of Mg <sub>3+Sb<sub>2-y</sub>Bi<sub>y</sub> near Room Temperature. Research, 2020, 2020, 1672051.</sub>	5.7	29

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91	High-Performance Mg <sub>3</sub> Sb <sub>2</sub> Bi Thermoelectrics: Progress and Perspective. Research, 2020, 2020, 1934848.	5.7	63
92	Defects Engineering with Multiple Dimensions in Thermoelectric Materials. Research, 2020, 2020, 9652749.	5.7	56
93	High Carrier Mobility and High Figure of Merit in the CuBiSe <sub>2</sub> Alloyed GeTe. Advanced Energy Materials, 2021, 11, 2102913.	19.5	52
94	Realizing Cd and Ag codoping in p-type Mg <sub>3</sub> Sb <sub>2</sub> toward high thermoelectric performance. Journal of Magnesium and Alloys, 2023, 11, 2486-2494.	11.9	19
95	Thermoelectric performance improvement of p-type Mg <sub>3</sub> Sb <sub>2</sub> -based materials by Zn and Ag co-doping. Materials Today Physics, 2021, 21, 100564.	6.0	20
96	The challenge of tuning the ratio of lattice/total thermal conductivity toward conversion efficiency vs power density. Applied Physics Letters, 2021, 119, .	3.3	9
97	Thermoelectric converter: Strategies from materials to device application. Nano Energy, 2022, 91, 106692.	16.0	127
98	Thermoelectric Generators: A comprehensive review of characteristics and applications. Applied Thermal Engineering, 2022, 201, 117793.	6.0	153
99	In-plane $\text{CrN}_2$ metal-semiconductor heterostructure with improved thermoelectric properties. Physical Review Materials, 2021, 5, .	2.4	7
100	Prediction of a high-ZT and strong anisotropic thermoelectric material: Monolayer InClSe. Physica E: Low-Dimensional Systems and Nanostructures, 2022, 138, 115108.	2.7	5
101	Enhanced Thermoelectric Performance of Indium-Doped n-type Mg <sub>3</sub> Sb <sub>2</sub> -Based Materials Synthesized by Rapid Induction Melting. Journal of Electronic Materials, 2022, 51, 1591-1596.	2.2	3
102	Thermoelectric Coolers: Progress, Challenges, and Opportunities. Small Methods, 2022, 6, e2101235.	8.6	77
103	Large improvement in thermoelectric performance of pressure-tuned Mg <sub>3</sub> Sb <sub>2</sub> . RSC Advances, 2021, 12, 1149-1156.	3.6	3
104	Key properties of inorganic thermoelectric materialsâ€”tables (version 1). JPhys Energy, 2022, 4, 022002.	5.3	51
105	Next-generation thermoelectric cooling modules based on high-performance Mg <sub>3</sub> (Bi,Sb) <sub>2</sub> material. Joule, 2022, 6, 193-204.	24.0	89
106	Tuning the Carrier Scattering Mechanism by Rare-Earth Element Doping for High Average $zT$ in Mg <sub>3</sub> Sb <sub>2</sub> -Based Compounds. ACS Applied Materials & Interfaces, 2022, 14, 7022-7029.	8.0	16
107	Seeing Structural Mechanisms of Optimized Piezoelectric and Thermoelectric Bulk Materials through Structural Defect Engineering. Materials, 2022, 15, 487.	2.9	3
108	Understanding the High Thermoelectric Performance of Mg <sub>3</sub> Sb <sub>2</sub> â€Mg <sub>3</sub> Bi <sub>2</sub> Alloys. Advanced Energy and Sustainability Research, 2022, 3, .	5.8	31



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109	Thermoelectric Generator: Materials and Applications in Wearable Health Monitoring Sensors and Internet of Things Devices. Advanced Materials Technologies, 2022, 7, .	5.8	42
110	Novel Thermal Diffusion Temperature Engineering Leading to High Thermoelectric Performance in Bi <sub>2</sub> Te <sub>3</sub> -Based Flexible Thin-Films. Advanced Science, 2022, 9, e2103547.	11.2	102
111	Band convergence boosted high thermoelectric performance of Zintl compound Mg <sub>3</sub> Sb <sub>2</sub> achieved by biaxial strains. Journal of Materiomics, 2022, 8, 1086-1094.	5.7	11
112	Maximizing the performance of n-type Mg <sub>3</sub> Bi <sub>2</sub> based materials for room-temperature power generation and thermoelectric cooling. Nature Communications, 2022, 13, 1120.	12.8	101
113	High-Ranged <i>zT</i> Value Promotes Thermoelectric Cooling and Power Generation in n-Type PbTe. Advanced Energy Materials, 2022, 12, .	19.5	36
114	Tuning the carrier scattering mechanism to improve the thermoelectric performance of p-type Mg <sub>3</sub> Sb <sub>1.5</sub> Bi <sub>0.5</sub> -based material by Ge doping. Materials Today Energy, 2022, 25, 100977.	4.7	3
115	Thermoelectrics for medical applications: Progress, challenges, and perspectives. Chemical Engineering Journal, 2022, 437, 135268.	12.7	101
116	In-Situ Loading Bridgman Growth of Mg <sub>3</sub> Bi <sub>1.49</sub> Sb <sub>0.5</sub> Te <sub>0.01</sub> Bulk Crystals for Thermoelectric Applications. Advanced Electronic Materials, 2022, 8, .	5.1	8
117	Synergistic effect of Zn doping on thermoelectric properties to realize a high figure-of-merit and conversion efficiency in Bi <sub>2</sub> <sup>x</sup> Zn <sup>x</sup> Te <sub>3</sub> based thermoelectric generators. Journal of Materials Chemistry C, 2022, 10, 7970-7979.	5.5	13
118	Zintl Phase Compounds Mg <sub>3</sub> Sb <sub>2</sub> <sup>x</sup> Bix (x = 0, 1, and 2) Monolayers: Electronic, Phonon and Thermoelectric Properties From ab Initio Calculations. Frontiers in Mechanical Engineering, 2022, 8, .	1.8	7
119	Electronic Orbital Alignment and Hierarchical Phonon Scattering Enabling High Thermoelectric Performance p-Type Mg <sub>3</sub> Sb <sub>2</sub> Zintl Compounds. Research, 2022, 2022, 9842949.	5.7	5
120	Enhanced thermoelectric performance in n-type Mg <sub>3.2</sub> Sb <sub>1.5</sub> Bi <sub>0.5</sub> doping with lanthanides at the Mg site. Journal of Materials Science and Technology, 2022, 127, 108-114.	10.7	3
121	Thermoelectric enhancement achieved by Y and La Co-doping in n-type Mg <sub>3.2</sub> Sb <sub>1.5</sub> Bi <sub>0.5</sub> . Chemical Engineering Journal, 2022, 446, 136981.	12.7	4
122	Synergistic Effect of Band and Nanostructure Engineering on the Boosted Thermoelectric Performance of n-Type Mg <sub>3+<i>i</i>′</sub> (Sb, Bi) <sub>2</sub> Zintls. Advanced Energy Materials, 2022, 12, .	19.5	41
123	Topological electronic structure of YbMg <sub>2</sub> Bi <sub>2</sub> and CaMg <sub>2</sub> Bi <sub>2</sub> . Npj Quantum Materials, 2022, 7, .	5.2	7
124	Solid-State Janus Nanoprecipitation Enables Amorphous-Like Heat Conduction in Crystalline Mg <sub>3</sub> Sb <sub>2</sub> -Based Thermoelectric Materials. Advanced Science, 2022, 9, .	11.2	12
125	Band engineering and improved thermoelectric performance in p-type SmMg <sub>2</sub> Sb <sub>2</sub> : A first-principles study. Materials Today Physics, 2022, 27, 100779.	6.0	1
126	Evolution of Nanometer-Scale Microstructure within Grains and in the Intergranular Region in Thermoelectric Mg <sub>3</sub> (Sb, Bi) <sub>2</sub> Alloys. ACS Applied Materials & Interfaces, 2022, 14, 37958-37966.	8.0	6



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127	Enhanced average thermoelectric properties of n-type Mg <sub>3</sub> Sb <sub>2</sub> based materials by mixed-valence Ni doping. Journal of Alloys and Compounds, 2022, 924, 166598.	5.5	5
128	Extraordinary thermoelectric performance, thermal stability and mechanical properties of n-type Mg <sub>3</sub> Sb <sub>1.5</sub> Bi <sub>0.5</sub> through multi-dopants at interstitial site. Materials Today Physics, 2022, 27, 100835.	6.0	8
129	Enhancement of the power factor of SnSe by adjusting the crystal and energy band structures. Physical Chemistry Chemical Physics, 2022, 24, 24130-24136.	2.8	3
130	Effect of Different Sb/Bi Substituted Sites on Electronic Transport Properties of Mg <sub>2</sub> Si <sub>0.375</sub> Sn <sub>0.625</sub> Alloy. Wuli Xuebao/Acta Physica Sinica, 2022, .	0.5	0
131	Effect of Different Sb/Bi Substituted Sites on Electronic Transport Properties of Mg <sub>2</sub> Si <sub>0.375</sub> Sn <sub>0.625</sub> Alloy. Wuli Xuebao/Acta Physica Sinica, 2022, .	0.5	0
132	Solid-state cooling: thermoelectrics. Energy and Environmental Science, 2022, 15, 4527-4541.	30.8	34
133	Understanding Micro and Atomic Structures of Secondary Phases in Cu-Doped SnTe. Small, 2022, 18, .	10.0	7
134	Crystal Structure and Thermoelectric Properties of Layered Van der Waals Semimetal ZrTiSe <sub>4</sub> . Chemistry of Materials, 2022, 34, 8858-8867.	6.7	5
135	Thermoelectric Materials. , 2022, , .		0
136	Understanding the influence of Bi/Sb substitution on carrier concentration in Mg <sub>3</sub> Sb <sub>2</sub> -based materials: decreasing bandgap enhances the degree of impurity ionization. Physical Chemistry Chemical Physics, 2022, 24, 27812-27818.	2.8	1
137	Revealing the Defect-Dominated Electron Scattering in Mg <sub>3</sub> Sb <sub>2</sub> -Based Thermoelectric Materials. Research, 2022, 2022, .	5.7	4
138	Interface and Surface Engineering Realized High Efficiency of 13% and Improved Thermal Stability in Mg <sub>3</sub> Sb <sub>1.5</sub> Bi <sub>0.5</sub> -Based Thermoelectric Generation Devices. Advanced Energy Materials, 2022, 12, .	19.5	16
139	Synergistic effects of Mg vacancy and Ag doping on thermoelectric transport properties of p-type Mg <sub>3</sub> Sb <sub>2</sub> . Materials Research Bulletin, 2023, 159, 112106.	5.2	2
140	High performance GeTe thermoelectrics enabled by lattice strain construction. Acta Materialia, 2023, 244, 118565.	7.9	11
141	Electronic and magnetic properties of the topological semimetal $\text{SmMg}_2$ . Physical Review B, 2022, 106, .		
142	A Review of Key Properties of Thermoelectric Composites of Polymers and Inorganic Materials. Materials, 2022, 15, 8672.	2.9	3
143	Enhancing thermoelectric properties of MCoSb-based alloys by entropy-driven energy-filtering effects and band engineering. Materials Today Physics, 2023, 30, 100957.	6.0	1
144	Recent Developments in Thermoelectric Generation: A Review. Sustainability, 2022, 14, 16821.	3.2	11

#	ARTICLE	IF	CITATIONS
145	High-temperature oxidation mechanism of ZrCoSb-based half-Heusler thermoelectric compounds. Journal of Materials Science and Technology, 2023, 148, 242-249.	10.7	4
146	Enhancing the thermoelectric power factor of Mg <sub>3</sub> Sb <sub>2</sub> with Sn doping on electronegative sites of Sb: Effects of reducing the electronegativity difference. Materials Chemistry and Physics, 2023, 297, 127379.	4.0	6
147	Electrical property enhancement and lattice thermal conductivity reduction of n-type Mg <sub>3</sub> Sb <sub>1.5</sub> Bi <sub>0.5</sub> -based Zintl compound by In&Se co-doping. Journal of Materiomics, 2023, 9, 431-437.	5.7	3
148	Morphology and Thermoelectric Properties of Mg <sub>3+δ</sub> Sb <sub>2</sub> Foams Manufactured Using Combustion Synthesis. Materials Transactions, 2023, , .	1.2	0
149	Influence of N-type doping sites on electronic transport properties of Mg <sub>3</sub> Sb <sub>1.5</sub> Bi <sub>0.5</sub> alloys. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2023, 293, 116463.	3.5	0
150	Cobalt doping of Mg <sub>3</sub> Sb <sub>2</sub> monolayer: Improved thermoelectric performance. Physics Letters, Section A: General, Atomic and Solid State Physics, 2023, 463, 128684.	2.1	0
151	Intrinsic thermal stability enhancement in n-type Mg <sub>3</sub> Sb <sub>2</sub> thermoelectrics toward practical applications. Acta Materialia, 2023, 247, 118752.	7.9	6
152	Strain Tunable Thermoelectric Material: Janus ZrSSe Monolayer. Langmuir, 2023, 39, 2719-2728.	3.5	5
153	High performance of Mg <sub>3</sub> Bi <sub>1.5</sub> Sb <sub>0.5</sub> based materials for power generation: Revealing the counter-intuitive effect of tuning Bi content on the thermoelectric properties. Journal of Magnesium and Alloys, 2023, , .	11.9	1
154	Ti-doping inducing high-performance flexible p-type Bi <sub>0.5</sub> Sb <sub>1.5</sub> Te <sub>3</sub> -based thin film. Ceramics International, 2023, 49, 18584-18591.	4.8	3
155	Physics and technology of thermoelectric materials and devices. Journal Physics D: Applied Physics, 2023, 56, 333001.	2.8	10
156	Breaking the Minimum Limit of Thermal Conductivity of Mg <sub>3</sub> Sb <sub>2</sub> Thermoelectric Mediated by Chemical Alloying Induced Lattice Instability. Small, 2023, 19, .	10.0	5
157	High thermoelectric performance and anisotropy studies of n-type Mg <sub>3</sub> Bi <sub>2</sub> -based single crystal. Acta Materialia, 2023, 255, 119028.	7.9	3
158	Thermoelectric properties and scattering mechanisms in natural PbS. Physical Review B, 2023, 107, .	3.2	2
159	Effect of Mn and Te doping on thermoelectric transport properties of Mg <sub>3.2-x</sub> Mn <sub>x</sub> Sb <sub>1.97</sub> Te <sub>0.03</sub> (0 ≤ x ≤ 0.03). Journal of Materials Science in Semiconductor Processing, 2023, 165, 107674.	4.0	1
160	Mg Compensating Design in the Melting&Sintering Method For High&Performance Mg <sub>3</sub> (Bi) <sub>2</sub> Thermoelectric. Journal of Materials, 2023, 52, 107674.	10.0	5
161	High-performance copper selenide nanocomposites for power generation. Journal of the European Ceramic Society, 2023, 43, 5255-5262.	5.7	0
162	Synthesis and Thermoelectric Properties of La-doped n-type Mg <sub>3</sub> SbBi Materials. Journal of Korean Institute of Metals and Materials, 2023, 61, 437-443.	1.0	1

#	ARTICLE	IF	CITATIONS
163	Advancing Thermoelectric Materials: A Comprehensive Review Exploring the Significance of One-Dimensional Nano Structuring. <i>Nanomaterials</i> , 2023, 13, 2011.	4.1	4
164	Enhancing thermoelectric performance in P-type $\text{Mg}_3\text{Sb}_2$ -based Zintl through optimization of band gap structure and nanostructuring. <i>Journal of Materials Science and Technology</i> , 2024, 170, 25-32.	10.7	2
165	Realizing High Thermoelectric Performance in n-Type $\text{Mg}_{3-x}(\text{Sb}, \text{Bi})_2$ -Based Materials via Synergetic Mo Addition and Sb/Bi Ratio Refining. <i>Advanced Energy Materials</i> , 2023, 13, .	19.5	4
166	Device-Level Optimization of n-Type $\text{Mg}_3(\text{Sb}, \text{Bi})_2$ -Based Thermoelectric Modules toward Applications: A Perspective. <i>Advanced Functional Materials</i> , 2023, 33, .	14.9	3
167	Controlling Precipitation and Dopant Effects To Achieve Promising Thermoelectric Performance in $\text{CaTiO}_3$ . <i>ACS Applied Energy Materials</i> , 2023, 6, 8053-8062.	5.1	1
168	Inhibiting Mg Diffusion and Evaporation by Forming Mg-Rich Reservoir at Grain Boundaries Improves the Thermal Stability of n-Type $\text{Mg}_3\text{Sb}_2$ Thermoelectrics. <i>Small</i> , 2024, 20, .	10.0	0
169	Magnesium-based energy materials: Progress, challenges, and perspectives. <i>Journal of Magnesium and Alloys</i> , 2023, 11, 3896-3925.	11.9	8
170	Influence of Ni doping on the thermoelectric properties of $\text{Bi}_2\text{S}_3$ via high pressure and high temperature. <i>Journal of Alloys and Compounds</i> , 2023, 966, 171575.	5.5	0
171	Optimization of Thermoelectric Property of n-Type $\text{Mg}_3\text{Sb}_2$ Near Room Temperature via Mn&Se Co-Doping. <i>Advanced Sustainable Systems</i> , 0, .	5.3	0
172	Realizing high thermoelectric performance in p-type $\text{CaZn}_2\text{Sb}_2$ -alloyed $\text{Mg}_3\text{Sb}_2$ -based materials via band and point defect engineering. <i>Chemical Engineering Journal</i> , 2023, 475, 145988.	12.7	1
173	Optimization of Sintering Temperature for the Synthesis of n-type $\text{Mg}_3\text{SbBi}_{0.99}\text{Te}_{0.01}$ Thermoelectric Materials. <i>Journal of Korean Institute of Metals and Materials</i> , 2023, 61, 785-792.	1.0	0
174	High temperature oxidation behavior of ZrNiSn-based half-Heusler thermoelectric material. <i>Corrosion Science</i> , 2023, , 111606.	6.6	0
175	Advances in the applications of thermoelectric generators. <i>Applied Thermal Engineering</i> , 2024, 236, 121813.	6.0	6
176	Revealing the Chemical Instability of $\text{Mg}_3\text{Sb}_2$ -Bi-Based Thermoelectric Materials. <i>ACS Applied Materials &amp; Interfaces</i> , 2023, 15, 50216-50224.	8.0	4
177	Band Engineering and Phonon Engineering Effectively Improve n-Type $\text{Mg}_3\text{Sb}_2$ Thermoelectric Material Properties. <i>ACS Applied Materials &amp; Interfaces</i> , 2023, 15, 53594-53603.	8.0	1
178	Realizing an excellent conversion efficiency of 14.5% in the $\text{Mg}_3\text{Sb}_2/\text{GeTe}$ -based thermoelectric module for waste heat recovery. <i>Energy and Environmental Science</i> , 2023, 16, 6147-6154.	30.8	1
179	Wide-temperature-range thermoelectric n-type $\text{Mg}_3(\text{Sb}, \text{Bi})_2$ with high average and peak zT values. <i>Nature Communications</i> , 2023, 14, .	12.8	4
180	Bismuth-free $\text{Mg}_3\text{Sb}_2$ with enhanced room-temperature thermoelectric and mechanical properties. <i>Journal of Materiomics</i> , 2023, , .	5.7	0

#	ARTICLE	IF	CITATIONS
182	Boosting room-temperature thermoelectric performance of Mg <sub>3</sub> Sb <sub>1.5</sub> Bi <sub>0.5</sub> material through breaking the contradiction between carrier concentration and carrier mobility. Acta Materialia, 2024, 265, 119636.	7.9	0
183	Thermoelectric Properties of N-type Mg <sub>3</sub> La <sub>0.005</sub> Mn <sub>x</sub> SbBi Materials Doped with La and Mn. Journal of Korean Institute of Metals and Materials, 2024, 62, 45-50.	1.0	0
184	Simultaneously Boosting Thermoelectric and Mechanical Properties of n-Type Mg <sub>3</sub> Sb <sub>1.5</sub> Bi <sub>0.5</sub> -Based Zintl through Energy-Band and Defect Engineering. ACS Nano, 2024, 18, 1678-1689.	14.6	0
185	Temperature-renormalized phonon and electron transport in thermoelectric $Mg_3Sb_{1.5}Bi_{0.5}$ : Dominant role of anharmonic phonon modes. Physical Review B, 2024, 109, .		
186	Advancing n-type Mg <sub>3</sub> Sb <sub>1.5</sub> Bi <sub>0.47</sub> Te <sub>0.03</sub> -based thermoelectric Zintl via sc-doping-driven band and defect engineering. Chemical Engineering Journal, 2024, 482, 149051.	12.7	0
187	High-Performance CaMg <sub>2</sub> Bi <sub>2</sub> -Based Thermoelectric Materials Driven by Lattice Softening and Orbital Alignment via Cadmium Doping. Advanced Functional Materials, 0, , .	14.9	0
188	Unphysical grain size dependence of lattice thermal conductivity in Mg <sub>3</sub> (Sb, Bi) <sub>2</sub> : An atomistic view of concentration dependent segregation effects. Materials Today Physics, 2024, 43, 101386.	6.0	0