Establishing the Golden Range of Seebeck Coefficient fo
Performance

Journal of the American Chemical Society

142, 2672-2681

DOI: 10.1021/jacs.9b13272

#	Article	IF	Citations
1	Rashba Effect Maximizes Thermoelectric Performance of GeTe Derivatives. Joule, 2020, 4, 2030-2043.	11.7	138
2	A Structural Review of Thermoelectricity for Fuel Cell CCHP Applications. Journal of Energy, 2020, 2020, 1-23.	1.4	8
3	Rational structural design and manipulation advance SnSe thermoelectrics. Materials Horizons, 2020, 7, 3065-3096.	6.4	73
4	Exceptionally High Average Power Factor and Thermoelectric Figure of Merit in n-type PbSe by the Dual Incorporation of Cu and Te. Journal of the American Chemical Society, 2020, 142, 15172-15186.	6.6	72
5	Thermoelectric Generators: Alternative Power Supply for Wearable Electrocardiographic Systems. Advanced Science, 2020, 7, 2001362.	5.6	146
6	Interlaboratory Testing for Highâ€Temperature Power Generation Characteristics of a Niâ€Based Alloy Thermoelectric Module. Energy Technology, 2020, 8, 2000557.	1.8	7
7	Tailoring the phase transition temperature to achieve high-performance cubic GeTe-based thermoelectrics. Journal of Materials Chemistry A, 2020, 8, 18880-18890.	5.2	61
8	Highly efficient n-type PbTe developed by advanced electronic structure engineering. Journal of Materials Chemistry C, 2020, 8, 13270-13285.	2.7	36
9	Large Power Factors in Wide Band Gap Semiconducting RFeO₃ Materials for High-Temperature Thermoelectric Applications. ACS Applied Energy Materials, 2020, 3, 11193-11205.	2.5	10
10	Computer-aided design of high-efficiency GeTe-based thermoelectric devices. Energy and Environmental Science, 2020, 13, 1856-1864.	15.6	103
11	Bi₈Se₇: Delocalized Interlayer Ï€-Bond Interactions Enhancing Carrier Mobility and Thermoelectric Performance near Room Temperature. Journal of the American Chemical Society, 2020, 142, 12536-12543.	6.6	27
12	Crowding-out effect strategy using AgCl for realizing a super low lattice thermal conductivity of SnTe. Sustainable Materials and Technologies, 2020, 25, e00183.	1.7	6
13	Charge compensation weakening ionized impurity scattering and assessing the minority carrier contribution to the Seebeck coefficient in Pb-doped Mg₃Sb₂ compounds. Physical Chemistry Chemical Physics, 2020, 22, 7012-7020.	1.3	10
14	A synergy of strain loading and laser radiation in determining the high-performing electrical transports in the single Cu-doped SnSe microbelt. Materials Today Physics, 2020, 13, 100198.	2.9	18
15	Advanced Thermoelectric Design: From Materials and Structures to Devices. Chemical Reviews, 2020, 120, 7399-7515.	23.0	1,248
16	Texture-dependent thermoelectric properties of nano-structured Bi2Te3. Chemical Engineering Journal, 2020, 388, 124295.	6.6	142
17	Ultralow Lattice Thermal Conductivity in SnTe by Incorporating InSb. ACS Applied Materials & Interfaces, 2020, 12, 21863-21870.	4.0	29
18	Topological thermoelectrics. APL Materials, 2020, 8, .	2.2	84

#	Article	IF	Citations
19	Highâ€Performance GeTeâ€Based Thermoelectrics: from Materials to Devices. Advanced Energy Materials, 2020, 10, 2000367.	10.2	160
20	Crystal symmetry induced structure and bonding manipulation boosting thermoelectric performance of GeTe. Nano Energy, 2020, 73, 104740.	8.2	71
21	Thermoelectric performance of Cu2Se doped with rapidly synthesized gel-like carbon dots. Journal of Alloys and Compounds, 2021, 864, 157916.	2.8	22
22	High-efficiency thermocells driven by thermo-electrochemical processes. Trends in Chemistry, 2021, 3, 561-574.	4.4	57
23	Vacancy cluster-induced local disordered structure for the enhancement of thermoelectric property in Cu₂ZnSnSe₄. Journal of Materials Chemistry A, 2021, 9, 1006-1013.	5.2	15
24	Excellent thermoelectric performance of boron-doped n-type Mg3Sb2-based materials via the manipulation of grain boundary scattering and control of Mg content. Science China Materials, 2021, 64, 1761-1769.	3.5	26
25	Electronic transport descriptors for the rapid screening of thermoelectric materials. Materials Horizons, 2021, 8, 2463-2474.	6.4	16
26	Room-Temperature Thermoelectric Conversion by Dipole-Enhanced Rashba Spin-Orbit Coupling. Cell Reports Physical Science, 2021, 2, 100284.	2.8	5
27	Synergistic manifestation of band and scattering engineering in single aliovalent Sb alloyed anharmonic SnTe alloy in concurrence with rule of parsimony. Materials Advances, 0, , .	2.6	4
28	Novel optimization perspectives for thermoelectric properties based on Rashba spin splitting: a mini review. Nanoscale, 2021, 13, 18032-18043.	2.8	10
29	Enhancing the thermoelectric properties of SnTe via introducing PbTe@C coreâ€"shell nanostructures. Dalton Transactions, 2021, 50, 10515-10523.	1.6	8
30	Phase Equilibria and Thermoelectric Properties in the Pbâ€"Gaâ€"Te System in the Vicinity of the PbGa₆Te₁₀ Phase. Inorganic Chemistry, 2021, 60, 2771-2782.	1.9	13
31	A flexible electromagnetic wave-electricity harvester. Nature Communications, 2021, 12, 834.	5.8	269
32	Chemical Composition Engineering Leading to the Significant Improvement in the Thermoelectric Performance of AgBiSe₂-Based n-Type Solid Solutions. ACS Applied Energy Materials, 2021, 4, 2899-2907.	2.5	5
33	Allâ€Scale Hierarchical Structure Contributing to Ultralow Thermal Conductivity of Zintl Phase CaAg_{0.2}Zn_{0.4}Sb. Advanced Science, 2021, 8, 2100109.	5.6	12
34	Half-Heusler thermoelectric materials. Applied Physics Letters, 2021, 118, .	1.5	60
35	Lattice Strain Leads to High Thermoelectric Performance in Polycrystalline SnSe. ACS Nano, 2021, 15, 8204-8215.	7.3	66
36	Enhanced thermoelectric performance of van der Waals Tellurium via vacancy engineering. Materials Today Physics, 2021, 18, 100379.	2.9	10

#	Article	IF	Citations
37	Boosting Thermoelectric Performance of Cu₂SnSe₃ <i>via</i> Comprehensive Band Structure Regulation and Intensified Phonon Scattering by Multidimensional Defects. ACS Nano, 2021, 15, 10532-10541.	7.3	40
38	Optimized Electronic Bands and Ultralow Lattice Thermal Conductivity in Ag and Y Codoped SnTe. ACS Applied Materials & Interfaces, 2021, 13, 32876-32885.	4.0	21
39	Thermoelectric CoGeTe with an Orthorhombic Crystal Symmetry and Balance of the Electrical and Thermal Properties. Inorganic Chemistry, 2021, 60, 12331-12338.	1.9	1
40	Enhanced Stability and Thermoelectric Performance in Cu_{1.85}Se-Based Compounds. ACS Applied Materials & Interfaces, 2021, 13, 37862-37872.	4.0	5
41	Weak-ferromagnetism for room temperature thermoelectric performance enhancement in p-type (Bi,Sb)2Te3. Materials Today Physics, 2021, 19, 100423.	2.9	15
42	Entropy-Induced Multivalley Band Structures Improve Thermoelectric Performance in <i>p</i>-Cu₇P(S_{<i>x</i>}Se_{1â€“<i>x</i>})₆ Argyrodites. ACS Applied Materials & Interfaces, 2021, 13, 39606-39620.	4.0	22
43	Controlled Morphology and Its Effects on the Thermoelectric Properties of SnSe2 Thin Films. Crystals, 2021, 11, 942.	1.0	2
44	A chemical kinetics perspective on thermoelectric transport. Applied Physics Letters, 2021, 119, 060503.	1.5	4
45	Understanding bipolar thermal conductivity in terms of concentration ratio of minority to majority carriers. Journal of Materials Research and Technology, 2021, 14, 639-646.	2.6	6
46	Achievement of extra-high thermoelectric performance in doped copper (I) sulfide. Journal of Alloys and Compounds, 2021, 878, 160128.	2.8	9
47	Synthesis and characterization of G/TiO1.80 bulk composite thermoelectric material under high temperature and high pressure. Ceramics International, 2021, 47, 31852-31859.	2.3	2
48	Thermoelectric materials and transport physics. Materials Today Physics, 2021, 21, 100519.	2.9	77
49	Enhanced thermoelectric composite performance from mesoporous carbon additives in a commercial Bi0.5Sb1.5Te3 matrix. Journal of Materials Science and Technology, 2021, 94, 175-182.	5.6	16
50	Enhanced thermoelectric properties of bismuth and zinc co-doped SnTe by band engineering and all-scale structure defects. Journal of Alloys and Compounds, 2022, 889, 161651.	2.8	8
51	Giant thermoelectric performance of an n-type 2D GaSe_{0.5}Te_{0.5} alloy. Journal of Materials Chemistry C, 2021, 9, 10497-10504.	2.7	5
52	Engineering the electronic band structure and thermoelectric performance of GeTe <i>via</i> lattice structure manipulation from first-principles. Physical Chemistry Chemical Physics, 2021, 23, 23576-23585.	1.3	6
53	Ultrahigh Power Factors in Ultrawide-Band-Gap GaB₃N₄ and AlB₃N₄ for High-Temperature Thermoelectric Applications. ACS Applied Electronic Materials, 2021, 3, 219-229.	2.0	6
54	Recent trends in thermoelectrochemical cells and thermally regenerative batteries. Current Opinion in Electrochemistry, 2021, 30, 100853.	2.5	6

#	Article	IF	Citations
55	High Thermoelectric Performance of <i>p</i>-Type PbTe Enabled by the Synergy of Resonance Scattering and Lattice Softening. ACS Applied Materials & Interfaces, 2021, 13, 49027-49042.	4.0	41
56	Enhancement of Thermoelectric Properties of n-Type Bi₂Te_{3â€“<i>x</i>}Se_{<i>x</i>} by Energy Filtering Effect. ACS Applied Energy Materials, 2021, 4, 11819-11826.	2.5	18
57	High Thermoelectric Performance through Crystal Symmetry Enhancement in Triply Doped Diamondoid Compound Cu₂SnSe₃. Advanced Energy Materials, 2021, 11, 2100661.	10.2	39
58	The challenge of tuning the ratio of lattice/total thermal conductivity toward conversion efficiency vs power density. Applied Physics Letters, 2021, 119, .	1.5	9
59	Ultrahigh Power Factor and Ultralow Thermal Conductivity at Room Temperature in PbSe/SnSe Superlattice: Role of Quantumâ€Well Effect. Small, 2022, 18, e2104916.	5.2	10
60	Thermoelectric properties of tubular nanowires in the presence of a transverse magnetic field. Nanotechnology, 2020, 31, 424006.	1.3	3
61	Morphology Optimization of Bi₂Se₃ Thin Films for Enhanced Thermoelectric Performance. Crystal Growth and Design, 2021, 21, 6737-6743.	1.4	8
62	Ce Filling Limit and Its Influence on Thermoelectric Performance of Fe3CoSb12-Based Skutterudite Grown by a Temperature Gradient Zone Melting Method. Materials, 2021, 14, 6810.	1.3	3
63	Enhanced Thermoelectric Performance and Electronic Transport Properties of Ag-Doped Cu2â€“xS0.5Se0.5. ACS Applied Energy Materials, 0, , .	2.5	3
64	Unusually high Seebeck coefficient arising from temperature-dependent carrier concentration in PbSeâ€“AgSbSe₂ alloys. Journal of Materials Chemistry C, 2021, 9, 17365-17370.	2.7	5
65	Exceptionally low thermal conductivity realized in the chalcopyrite CuFeS2 via atomic-level lattice engineering. Nano Energy, 2022, 94, 106941.	8.2	19
66	Improvement of Thermoelectric Properties for Silicene by Hydrogenation Effect. SSRN Electronic Journal, 0, , .	0.4	0
67	Thermoelectric transport effects beyond single parabolic band and acoustic phonon scattering. Materials Advances, 2022, 3, 734-755.	2.6	21
68	A sketch for super-thermoelectric materials. Materials Today Physics, 2022, 22, 100618.	2.9	8
69	A Tunable Structural Family with Ultralow Thermal Conductivity: Copper-Deficient Cu_{1â€“<i>x</i>}â–¡_{<i>x</i>}Pb_{1â€“<i>x</i>}Bi_{1+<i>x</i>}S₃. Journal of the American Chemical Society, 2022, 144, 1846-1860.	6.6	15
70	Effects of Co-doping and Microstructure on Charge Carrier Energy Filtering in Thermoelectric Titanium-Doped Zinc Aluminum Oxide. ACS Applied Materials & Interfaces, 2022, 14, 4035-4050.	4.0	11
71	ds-Block Element-Enabled Cooperative Regulation of Electrical and Thermal Transport for Extraordinary N- and P-Type PbSe Thermoelectrics near Room Temperature. Chemistry of Materials, 2022, 34, 1862-1874.	3.2	8
72	Enhanced thermoelectric performance of PbSe-graphene nanocomposite manufactured with acoustic cavitation induced defects. Nano Energy, 2022, 94, 106943.	8.2	11

#	Article	IF	Citations
73	Crystal Structure and Thermoelectric Properties of Novel Quaternary Cu₂MHf₃S₈ (Mâ”€Mn, Fe, Co, and Ni) Thiospinels with Low Thermal Conductivity. Chemistry of Materials, 2022, 34, 2146-2160.	3.2	8
74	Potential of Recycled Silicon and Silicon-Based Thermoelectrics for Power Generation. Crystals, 2022, 12, 307.	1.0	9
75	Detailed Structural Features of the Perovskite-Related Halide RbPbI₃ for Solar Cell Applications. Inorganic Chemistry, 2022, 61, 5502-5511.	1.9	7
76	Electron delocalization enhances the thermoelectric performance of misfit layer compound (Sn_{1â^’x}Bi_xS)_{1.2}(TiS₂)₂. Chinese Physics B, 2022, 31, 117202.	0.7	1
77	Improvement of thermoelectric properties for silicene by the hydrogenation effect. Results in Physics, 2022, 36, 105422.	2.0	4
78	Achieving High Thermoelectric Performance by NaSbTe₂ Alloying in GeTe for Simultaneous Suppression of Ge Vacancies and Band Tailoring. Advanced Energy Materials, 2022, 12, .	10.2	28
79	Bi2S3 as a Promising ThermoelectricMaterial:Back and Forth. , 0, 1, .		6
80	Ultralow Lattice Thermal Conductivity and Promising Thermoelectric Properties of New 2d Mow3te8 Membrane. SSRN Electronic Journal, 0, , .	0.4	0
81	Achieving high thermoelectric performance through carrier concentration optimization and energy filtering in Cu3SbSe4-based materials. Journal of Materiomics, 2022, 8, 929-936.	2.8	7
82	Thermal Concentration on Thermoelectric Thin Film for Efficient Solar Energy Harvesting. Coatings, 2022, 12, 630.	1.2	0
83	Towards Low Cost and Sustainable Thin Film Thermoelectric Devices Based on Quaternary Chalcogenides. Advanced Functional Materials, 2022, 32, .	7.8	26
84	Intrinsic defects and the influences on electrical transport properties in quaternary diamond-like compounds: Cd2Cu3In3Te8 as an example. Journal of Materiomics, 2022, 8, 1222-1229.	2.8	4
85	Band Modulation and Strain Fluctuation for Realizing High Average <i>zT</i> in GeTe. Advanced Energy Materials, 2022, 12, .	10.2	13
86	Creating high-dense stacking faults and endo-grown nanoneedles to enhance phonon scattering and improve thermoelectric performance of Cu2SnSe3. Nano Energy, 2022, 100, 107510.	8.2	18
87	Electronic, magnetic and thermoelectric properties of Nb-substituted Fe2TiO5 pseudobrookite compound: Ab initio study. Journal of Computational Electronics, 2022, 21, 1070-1078.	1.3	2
88	Integrated Photothermalâ€Pyroelectric Biosensor for Rapid and Pointâ€ofâ€Care Diagnosis of Acute Myocardial Infarction: A Convergence of Theoretical Research and Commercialization. Small, 2022, 18, .	5.2	28
89	Tunable Electrical Conductivity and Simultaneously Enhanced Thermoelectric and Mechanical Properties in nâ€type Bi₂Te₃. Advanced Science, 2022, 9, .	5.6	36
90	Unravelling Effective-Medium transport and interfacial resistance in (CaTe) (GeTe)100-thermoelectrics. Chemical Engineering Journal, 2023, 452, 139269.	6.6	4

#	Article	IF	Citations
91	Pressure-Induced Enhancement of Thermoelectric Performance of CoP ₃ By the Structural Phase Transition. SSRN Electronic Journal, 0, , .	0.4	0
92	Big data technologies in energy. AIP Conference Proceedings, 2022, , .	0.3	1
93	Performance Optimization of Thermoelectric Devices and its Dependence on Materials Properties. , 0, 1, .		3
94	Ag₂Qâ€Based (QÂ=ÂS, Se, Te) Silver Chalcogenide Thermoelectric Materials. Advanced Materials, 2023, 35, .	11.1	39
95	Realizing High Thermoelectric Performance of Ag/Al Coâ€Doped Polycrystalline SnSe through Band Structure Modification and Hydrogen Reduction. Advanced Electronic Materials, 2022, 8, .	2.6	3
96	Insights into the Classification of Nanoinclusions of Composites for Thermoelectric Applications. ACS Applied Electronic Materials, 2022, 4, 4781-4796.	2.0	7
97	Inhibiting the bipolar effect via band gap engineering to improve the thermoelectric performance in n-type Bi2-Sb Te3 for solid-state refrigeration. Journal of Materials Science and Technology, 2023, 138, 50-58.	5.6	10
98	Chemistry in Advancing Thermoelectric GeTe Materials. Accounts of Chemical Research, 2022, 55, 3178-3190.	7.6	19
99	Atomic Level Defect Structure Engineering for Unusually High Average Thermoelectric Figure of Merit in nâ€Type PbSe Rivalling PbTe. Advanced Science, 2022, 9, .	5.6	21
100	Ultralow lattice thermal conductivity and promising thermoelectric properties of a new 2D MoW3Te8 membrane. Results in Physics, 2023, 44, 106136.	2.0	2
101	Role of lattice thermal conductivity in thermoelectric properties of chalcopyrite-type antimonides XSiSb2 (X = Mg, Be): A DFT insight. Materials Chemistry and Physics, 2023, 295, 127190.	2.0	3
102	Grain Boundary Complexions Enable a Simultaneous Optimization of Electron and Phonon Transport Leading to Highâ€Performance GeTe Thermoelectric Devices. Advanced Energy Materials, 2023, 13, .	10.2	22
103	Fine Tuning of Defects Enables High Carrier Mobility and Enhanced Thermoelectric Performance of n-Type PbTe. Chemistry of Materials, 2023, 35, 755-763.	3.2	22
104	Advances in flexible hydrogels for light-thermal-electricity energy conversion and storage. Journal of Energy Storage, 2023, 60, 106618.	3.9	7
105	High thermoelectric performance and compatibility in Cu₃SbSe₄â€“CuAlS₂ composites. Energy and Environmental Science, 2023, 16, 1763-1772.	15.6	13
106	Pressure-induced enhancement of thermoelectric performance of CoP3 by the structural phase transition. Acta Materialia, 2023, 248, 118773.	3.8	4
107	Enhancement of thermoelectric performance in TiNiSbxSn1-x half-Heusler alloys. Journal of Solid State Chemistry, 2023, 323, 124060.	1.4	2
108	Roomâ€Temperature Highâ€Performance Thermoelectric Bi_{0.6}Sb_{0.4}Te: Elimination of Detrimental Band Inversion in BiTe. Angewandte Chemie - International Edition, 2023, 62, .	7.2	2

#	Article	IF	Citations
109	Roomâ€Temperature Highâ€Performance Thermoelectric Bi _{0.6} Sb _{0.4} Te: Elimination of Detrimental Band Inversion in BiTe. Angewandte Chemie, 2023, 135, .	1.6	1
111	Doping by Design: Enhanced Thermoelectric Performance of GeSe Alloys Through Metavalent Bonding. Advanced Materials, 2023, 35, .	11.1	22
112	Fundamentals of thermoelectrics. , 2023, , 259-281.		1
116	Preparation thin-film from SrTiO3:B for thermopower application. AIP Conference Proceedings, 2023, , .	0.3	0