List of Publications by Year in descending order

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KVII HVOUNG LEE

#	Article	IF	CITATIONS
1	Dense dislocation arrays embedded in grain boundaries for high-performance bulk thermoelectrics. Science, 2015, 348, 109-114.	12.6	1,552
2	Lowering the Schottky Barrier Height by Graphene/Ag Electrodes for Highâ€Mobility MoS <sub>2</sub> Fieldâ€Effect Transistors. Advanced Materials, 2019, 31, e1804422.	21.0	165
3	Enhanced thermoelectric performance of Bi0.5Sb1.5Te3-expanded graphene composites by simultaneous modulation of electronic and thermal carrier transport. Nano Energy, 2015, 13, 67-76.	16.0	100
4	Synthesis of Multishell Nanoplates by Consecutive Epitaxial Growth of Bi <sub>2</sub> Se <sub>3</sub> and Bi <sub>2</sub> Te <sub>3</sub> Nanoplates and Enhanced Thermoelectric Properties. ACS Nano, 2015, 9, 6843-6853.	14.6	85
5	Strong Localization of Anionic Electrons at Interlayer for Electrical and Magnetic Anisotropy in Two-Dimensional Y <sub>2</sub> C Electride. Journal of the American Chemical Society, 2017, 139, 615-618.	13.7	71
6	Boundary Engineering for the Thermoelectric Performance of Bulk Alloys Based on Bismuth Telluride. ChemSusChem, 2015, 8, 2312-2326.	6.8	68
7	Ferromagnetic quasi-atomic electrons in two-dimensional electride. Nature Communications, 2020, 11, 1526.	12.8	57
8	Enhanced thermoelectric properties of Au nanodot-included Bi <sub>2</sub> Te <sub>3</sub> nanotube composites. Journal of Materials Chemistry C, 2016, 4, 1313-1319.	5.5	50
9	Grain Boundary Interfaces Controlled by Reduced Graphene Oxide in Nonstoichiometric SrTiO3-δ Thermoelectrics. Scientific Reports, 2019, 9, 8624.	3.3	50
10	Thermoelectric characteristics of Sb2Te3 thin films formed via surfactant-assisted electrodeposition. Journal of Materials Chemistry A, 2013, 1, 5430.	10.3	49
11	Direct Observation of Inherent Atomicâ€Scale Defect Disorders responsible for Highâ€Performance Ti <sub>1â~'</sub> <i><sub>x</sub></i> Hf <i><sub>x</sub></i> NiSn <sub>1â~'</sub> <i><sub>y</sub></i> Sb <i>Halfâ€Heusler Thermoelectric Alloys. Advanced Materials, 2017, 29, 1702091.</i>	<sæbxoy< s<="" td=""><td>sub49:/i&gt;</td></sæbxoy<>	sub49:/i>
12	Band engineering and tuning thermoelectric transport properties of p-type Bi0.52Sb1.48Te3 by Pb doping for low-temperature power generation. Scripta Materialia, 2018, 145, 41-44.	5.2	49
13	Approach to Determine the Densityâ€ofâ€States Effective Mass with Carrier Concentrationâ€Dependent Seebeck Coefficient. Advanced Functional Materials, 2022, 32, .	14.9	49
14	Revisiting Polytypism in Hexagonal Ternary Sulfide ZnIn <sub>2</sub> S <sub>4</sub> for Photocatalytic Hydrogen Production Within the Z-Scheme. Chemistry of Materials, 2019, 31, 9148-9155.	6.7	47
15	Band Convergence in Thermoelectric Materials: Theoretical Background and Consideration on Bi–Sb–Te Alloys. ACS Applied Energy Materials, 2020, 3, 2214-2223.	5.1	46
16	Metallic conduction induced by direct anion site doping in layered SnSe2. Scientific Reports, 2016, 6, 19733.	3.3	45
17	Simple and efficient synthesis of nanograin structured single phase filled skutterudite for high thermoelectric performance. Acta Materialia, 2018, 142, 8-17.	7.9	44
18	Phonon scattering by dislocations at grain boundaries in polycrystalline Bi <sub>0.5</sub> Sb <sub>1.5</sub> Te <sub>3</sub> . Physica Status Solidi (B): Basic Research, 2017, 254, 1600103.	1.5	43

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19	Effect of Dislocation Arrays at Grain Boundaries on Electronic Transport Properties of Bismuth Antimony Telluride: Unified Strategy for High Thermoelectric Performance. Advanced Energy Materials, 2018, 8, 1800065.	19.5	40
20	Enhanced thermoelectric transport properties of n-type InSe due to the emergence of the flat band by Si doping. Inorganic Chemistry Frontiers, 2019, 6, 1475-1481.	6.0	39
21	Weighted Mobility Ratio Engineering for Highâ€Performance Bi–Teâ€Based Thermoelectric Materials via Suppression of Minority Carrier Transport. Advanced Materials, 2021, 33, e2005931.	21.0	39
22	High thermoelectric performance of melt-spun CuxBi0.5Sb1.5Te3 by synergetic effect of carrier tuning and phonon engineering. Acta Materialia, 2018, 158, 289-296.	7.9	37
23	Facile and fast decoration of SnO2 nanowires with Pd embedded SnO2-x nanoparticles for selective NO2 gas sensing. Sensors and Actuators B: Chemical, 2021, 340, 129984.	7.8	35
24	Enhanced thermoelectric performance of n-type Cu <sub>0.008</sub> Bi <sub>2</sub> Te <sub>2.7</sub> Se <sub>0.3</sub> by band engineering. Journal of Materials Chemistry C, 2015, 3, 10604-10609.	5.5	34
25	Clarification of electronic and thermal transport properties of Pb-, Ag-, and Cu-doped p-type Bi0.52Sb1.48Te3. Journal of Alloys and Compounds, 2019, 772, 593-602.	5.5	34
26	Non-oxidized bare copper nanoparticles with surface excess electrons in air. Nature Nanotechnology, 2022, 17, 285-291.	31.5	34
27	Graphene Substrate for van der Waals Epitaxy of Layerâ€Structured Bismuth Antimony Telluride Thermoelectric Film. Advanced Materials, 2017, 29, 1604899.	21.0	33
28	Tuning the Spin-Alignment of Interstitial Electrons in Two-Dimensional Y <sub>2</sub> C Electride via Chemical Pressure. Journal of the American Chemical Society, 2017, 139, 17277-17280.	13.7	33
29	Effect of Substitutional Pb Doping on Bipolar and Lattice Thermal Conductivity in p-Type Bi0.48Sb1.52Te3. Materials, 2017, 10, 763.	2.9	33
30	Metastable hexagonal close-packed palladium hydride in liquid cell TEM. Nature, 2022, 603, 631-636.	27.8	31
31	Water- and acid-stable self-passivated dihafnium sulfide electride and its persistent electrocatalytic reaction. Science Advances, 2020, 6, eaba7416.	10.3	30
32	Simple and effective fabrication of Sb <sub>2</sub> Te <sub>3</sub> films embedded with Ag <sub>2</sub> Te nanoprecipitates for enhanced thermoelectric performance. Journal of Materials Chemistry A, 2018, 6, 349-356.	10.3	25
33	Design and Preparation of High-Performance Bulk Thermoelectric Materials with Defect Structures. Journal of the Korean Ceramic Society, 2017, 54, 75-85.	2.3	25
34	Experimental evidence of enhancement of thermoelectric properties in tellurium nanoparticle-embedded bismuth antimony telluride. Journal of Materials Research, 2012, 27, 2449-2456.	2.6	24
35	Doping effects on the thermoelectric properties of Cu-intercalated Bi2Te2.7Se0.3. Current Applied Physics, 2015, 15, 190-193.	2.4	23
36	Up-scaled solid state reaction for synthesis of doped Mg2Si. Scripta Materialia, 2017, 128, 53-56.	5.2	23

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37	Fe-Doping Effect on Thermoelectric Properties of p-Type Bi0.48Sb1.52Te3. Materials, 2015, 8, 959-965.	2.9	22
38	Anisotropy of the thermoelectric figure of merit (ZT) in textured Ca3Co4O9 ceramics prepared by using a spark plasma sintering process. Journal of the Korean Physical Society, 2015, 66, 794-799.	0.7	21
39	Nanoparticles in Bi0.5Sb1.5Te3: A prerequisite defect structure to scatter the mid-wavelength phonons between Rayleigh and geometry scatterings. Acta Materialia, 2020, 185, 271-278.	7.9	21
40	Co-doping of Al and Bi to control the transport properties for improving thermoelectric performance of Mg2Si. Scripta Materialia, 2016, 116, 11-15.	5.2	20
41	Enhanced Thermoelectric Performance of p-Type Bi-Sb-Te Alloys by Codoping with Ga and Ag. Journal of Electronic Materials, 2015, 44, 1531-1535.	2.2	19
42	Te Monolayer-Driven Spontaneous van der Waals Epitaxy of Two-dimensional Pnictogen Chalcogenide Film on Sapphire. Nano Letters, 2017, 17, 6140-6145.	9.1	19
43	Highly fluidic liquid at homointerface generates grain-boundary dislocation arrays for high-performance bulk thermoelectrics. Acta Materialia, 2018, 159, 266-275.	7.9	19
44	Creation of two-dimensional layered Zintl phase by dimensional manipulation of crystal structure. Science Advances, 2019, 5, eaax0390.	10.3	19
45	Chemically synthesized Cu2Te incorporated Bi-Sb-Te p-type thermoelectric materials for low temperature energy harvesting. Scripta Materialia, 2019, 165, 78-83.	5.2	19
46	High-Performance Bismuth Antimony Telluride Thermoelectric Membrane on Curved and Flexible Supports. ACS Energy Letters, 2021, 6, 2378-2385.	17.4	19
47	Dimensional Crossover Transport Induced by Substitutional Atomic Doping in SnSe <sub>2</sub> . Advanced Electronic Materials, 2018, 4, 1700563.	5.1	18
48	An Enhanced Platform to Analyse Low-Affinity Amyloid β Protein by Integration of Electrical Detection and Preconcentrator. Scientific Reports, 2017, 7, 14303.	3.3	17
49	Dependence of mechanical and thermoelectric properties of Mg2Si-Sn nanocomposites on interface density. Journal of Alloys and Compounds, 2018, 769, 53-58.	5.5	17
50	Synergetic effect of grain size reduction on electronic and thermal transport properties by selectively-suppressed minority carrier mobility and enhanced boundary scattering in Bi0.5Sb1.5Te3 alloys. Scripta Materialia, 2019, 160, 15-19.	5.2	17
51	Weighted Mobility Ratio Engineering for Highâ€Performance Bi–Teâ€Based Thermoelectric Materials via Suppression of Minority Carrier Transport (Adv. Mater. 47/2021). Advanced Materials, 2021, 33, 2170371.	21.0	16
52	Critical role of atomic-scale defect disorders for high-performance nanostructured half-Heusler thermoelectric alloys and their thermal stability. Acta Materialia, 2019, 180, 97-104.	7.9	15
53	Improved trade-off between thermoelectric performance and mechanical reliability of Mg2Si by hybridization of few-layered reduced graphene oxides. Scripta Materialia, 2019, 162, 402-407.	5.2	15
54	Gas sensing behavior of p-NiO/n-ZnO composite nanofibers depending on varying p-NiO content: Selectivity and humidity-independence for oxidizing and reducing gas molecules. Sensors and Actuators B: Chemical, 2021, 349, 130813.	7.8	15

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55	Importance of crystal chemistry with interstitial site determining thermoelectric transport properties in pavonite homologue Cu–Bi–S compounds. CrystEngComm, 2016, 18, 1453-1461.	2.6	14
56	Cu–Bi–Se-based pavonite homologue: a promising thermoelectric material with low lattice thermal conductivity. Journal of Materials Chemistry A, 2013, 1, 9768.	10.3	13
57	Phase Formation and Thermoelectric Properties of Doped Higher Manganese Silicides (Mn15Si26). Journal of Electronic Materials, 2017, 46, 3242-3248.	2.2	13
58	Enhanced fracture toughness of Al and Bi co-doped Mg2Si by metal nanoparticle decoration. Ceramics International, 2017, 43, 12979-12982.	4.8	13
59	Potential-current co-adjusted pulse electrodeposition for highly (110)-oriented Bi2Te3-Se films. Journal of Alloys and Compounds, 2019, 787, 767-771.	5.5	13
60	Thermoelectric Transport Properties of n-Type Sb-doped (Hf,Zr,Ti)NiSn Half-Heusler Alloys Prepared by Temperature-Regulated Melt Spinning and Spark Plasma Sintering. Applied Sciences (Switzerland), 2020, 10, 4963.	2.5	13
61	Hidden role of intrinsic Sb-rich nano-precipitates for high-performance Bi2-Sb Te3 thermoelectric alloys. Acta Materialia, 2021, 215, 117058.	7.9	13
62	Enhanced Thermoelectric Properties of Ti <sub>2</sub> FeNiSb <sub>2</sub> Double Halfâ€Heusler Compound by Sn Doping. Advanced Energy and Sustainability Research, 2022, 3, .	5.8	13
63	MEMS-Based Gas Sensor Using PdO-Decorated TiO2 Thin Film for Highly Sensitive and Selective H2 Detection with Low Power Consumption. Electronic Materials Letters, 2018, 14, 305-313.	2.2	12
64	Effective role of filling fraction control in p-type CexFe3CoSb12 skutterudite thermoelectric materials. Intermetallics, 2019, 105, 44-47.	3.9	12
65	Synthesis, morphology, characterisation, and ethanol gas sensing of hierarchical flower-like Co-doped WO3 nanoplates by solvothermal route. Ceramics International, 2021, 47, 20956-20964.	4.8	12
66	Cu-incorporation by melt-spinning in n-type Bi2Te2.7Se0.3 alloys for low-temperature power generation. Scripta Materialia, 2019, 167, 120-125.	5.2	10
67	Generation of multi-dimensional defect structures for synergetic engineering of hole and phonon transport: enhanced thermoelectric performance in Sb and Cu co-doped GeTe. Inorganic Chemistry Frontiers, 2021, 8, 2782-2787.	6.0	10
68	Silver Nanowire Network Hybridized with Silver Nanoparticle-Anchored Ruthenium Oxide Nanosheets for Foldable Transparent Conductive Electrodes. ACS Applied Materials & Interfaces, 2021, 13, 11396-11402.	8.0	10
69	Van der Waals electride: Toward intrinsic two-dimensional ferromagnetism of spin-polarized anionic electrons. Materials Today Physics, 2021, 20, 100473.	6.0	10
70	Proton irradiation effects on thermal transport in individual single-crystalline Bi nanowires. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 1438-1441.	1.8	9
71	Strong correlation between the crystal structure and the thermoelectric properties of pavonite homologue Cu <sub>x+y</sub> Bi <sub>5â^yy</sub> Ch <sub>8</sub> (Ch = S or Se) compounds. Journal of Materials Chemistry C, 2015, 3, 11271-11285.	5.5	9
72	Enhanced Thermoelectric Properties of Melt-Spun p-Type Yb0.9Fe3CoSb12. Journal of Electronic Materials, 2017, 46, 2839-2843.	2.2	9

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73	Control of electrical to thermal conductivity ratio for p-type LaxFe3CoSb12 thermoelectrics by using a melt-spinning process. Journal of Alloys and Compounds, 2017, 729, 1209-1214.	5.5	9
74	Mg2Si-based thermoelectric compounds with enhanced fracture toughness by introduction of dual nanoinclusions. Journal of Alloys and Compounds, 2019, 801, 234-238.	5.5	9
75	Influence of Pd Doping on Electrical and Thermal Properties of n-Type Cu0.008Bi2Te2.7Se0.3 Alloys. Materials, 2019, 12, 4080.	2.9	9
76	Enhanced Thermoelectric Performance of Cu-incorporated Bi0.5Sb1.5Te3 by Melt Spinning and Spark Plasma Sintering. Journal of Electronic Materials, 2020, 49, 2789-2793.	2.2	9
77	Phase Formation Behavior and Thermoelectric Transport Properties of P-Type YbxFe3CoSb12 Prepared by Melt Spinning and Spark Plasma Sintering. Materials, 2020, 13, 87.	2.9	9
78	lsovalent sulfur substitution to induce a simultaneous increase in the effective mass and weighted mobility of a p-type Bi-Sb-Te alloy: an approach to enhance the thermoelectric performance over a wide temperature range. Acta Materialia, 2021, 205, 116578.	7.9	9
79	Effects of Intense Pulsed Light (IPL) Rapid Annealing and Back-Channel Passivation on Solution-Processed In-Ga-Zn-O Thin Film Transistors Array. Micromachines, 2020, 11, 508.	2.9	9
80	Surfactant-Free Scalable Synthesis of Bi2Te3and Bi2Se3Nanoflakes and Enhanced Thermoelectric Properties of Their Nanocomposites (Adv. Mater. 10/2013). Advanced Materials, 2013, 25, 1424-1424.	21.0	8
81	Formation of Dense Pore Structure by Te Addition in Bi0.5Sb1.5Te3: An Approach to Minimize Lattice Thermal Conductivity. Journal of Nanomaterials, 2013, 2013, 1-5.	2.7	8
82	Thermoelectric Transport Properties of Cu Nanoprecipitates Embedded <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" id="M1"&gt;<mml:msub><mml:mrow><mml:mtext>Bi</mml:mtext></mml:mrow><mml:mrow><mml:mtext>2Journal of Nanomaterials, 2015, 2015, 1-5.</mml:mtext></mml:mrow></mml:msub></mml:math 	ml:mtext>	
83	Structural optimization for thermoelectric properties in Cu-Bi-S pavonite compounds. Journal of Alloys and Compounds, 2017, 704, 282-288.	5.5	8
84	Microstructure Analysis and Thermoelectric Properties of Melt-Spun Bi-Sb-Te Compounds. Crystals, 2017, 7, 180.	2.2	8
85	Improved carrier transport properties by I-doping in n-type Cu0.008Bi2Te2.7Se0.3 thermoelectric alloys. Scripta Materialia, 2020, 186, 357-361.	5.2	8
86	Reduction of Lattice Thermal Conductivity in PbTe Induced by Artificially Generated Pores. Advances in Condensed Matter Physics, 2015, 2015, 1-6.	1.1	7
87	Concentrationâ€dependent excess Cu doping behavior and influence on thermoelectric properties in <scp> Bi <sub>2</sub> Te <sub>3</sub> </scp> . International Journal of Energy Research, 2022, 46, 3707-3713.	4.5	7
88	Effects of doping on the positional uniformity of the thermoelectric properties of n-type Bi2Te2.7Se0.3 polycrystalline bulks. Journal of the Korean Physical Society, 2016, 68, 17-21.	0.7	6
89	Sputtered PdO Decorated TiO <sub>2</sub> Sensing Layer for a Hydrogen Gas Sensor. Journal of Nanomaterials, 2018, 2018, 1-8.	2.7	6
90	Improved polaronic transport under a strong Mott–Hubbard interaction in Cu-substituted NiO. Inorganic Chemistry Frontiers, 2020, 7, 853-858.	6.0	6

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91	Important role of Cu in suppressing bipolar conduction in Bi-rich (Bi,Sb)2Te3. Scripta Materialia, 2020, 186, 225-229.	5.2	6
92	Understanding bipolar thermal conductivity in terms of concentration ratio of minority to majority carriers. Journal of Materials Research and Technology, 2021, 14, 639-646.	5.8	6
93	Facile and accelerated production of RuO2 monolayers via a dual-step intercalation process. Inorganic Chemistry Frontiers, 2020, 7, 1445-1450.	6.0	5
94	Studies on phase formation behavior and thermoelectric transport properties of Cu-doped Bi2Te3–Bi2S3 system. Journal of Materials Research and Technology, 2021, 15, 4781-4789.	5.8	5
95	Thermal stress-assisted annealing to improve the crystalline quality of an epitaxial YSZ buffer layer on Si. Journal of Materials Chemistry C, 2022, 10, 10027-10036.	5.5	5
96	Improvement in the thermoelectric performance of highly reproducible n-type (Bi,Sb) <sub>2</sub> Se <sub>3</sub> alloys by Cl-doping. RSC Advances, 2020, 10, 24663-24668.	3.6	4
97	Compositional effect in pentagonal layered PdSe2-S solid-solutions and their transport properties. Scripta Materialia, 2020, 182, 6-10.	5.2	4
98	Se-induced enhancement of the high-temperature thermoelectric performance of n-type Cu0.008Bi2(Te,Se)3 alloys due to suppressed bipolar conduction. Journal of Alloys and Compounds, 2021, 884, 161030.	5.5	4
99	Optimization of Synthesis Conditions of Na0.75CoO2 for High Thermoelectric Performance. Journal of Electronic Materials, 2015, 44, 1408-1412.	2.2	3
100	Correlation between thermoelectric transport properties and crystal structure in two-dimensional CrSiTe3. Journal of Alloys and Compounds, 2019, 790, 93-98.	5.5	3
101	Hf-Doping Effect on the Thermoelectric Transport Properties of n-Type Cu0.01Bi2Te2.7Se0.3. Applied Sciences (Switzerland), 2020, 10, 4875.	2.5	3
102	Interface treatment using amorphous-carbon and its applications. Scientific Reports, 2020, 10, 4093.	3.3	3
103	Control of Cu-doping behavior in n-type Cu0.01Bi1.99Te2.7Se0.3 polycrystalline bulk via fabrication technique change. Journal of Materials Research and Technology, 2021, 14, 765-771.	5.8	3
104	Vapor phase polymerization of Ag QD-embedded PEDOT film with enhanced thermoelectric and antibacterial properties. NPG Asia Materials, 2022, 14, .	7.9	3
105	Tunable thermoelectric transport properties of Cu0.008Bi2Te2.7Se0.3 via control of the spark plasma sintering conditions. Journal of the Korean Physical Society, 2016, 69, 811-815.	0.7	2
106	Frequencyâ€Independent and Colossal Dielectric Permittivity of Platy Alumina/Fewâ€Layer Graphene Multilayered Composites. Bulletin of the Korean Chemical Society, 2018, 39, 442-447.	1.9	2
107	Synthesis of Au/SnO2 nanostructures allowing process variable control. Scientific Reports, 2020, 10, 346.	3.3	2
108	Anomalous Electronic and Protonic Conductivity of 2D Titanium Oxide and Lowâ€Temperature Power Generation Using Its Protonic Conduction. Advanced Materials Interfaces, 2021, 8, 2101156.	3.7	2

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109	Enhancement of the thermoelectric figure of merit in n-type Cu0.008Bi2Te2.7Se0.3 by using Nb doping. Journal of the Korean Physical Society, 2016, 68, 7-11.	0.7	1
110	Enhanced Thermoelectric Performance of <i>p</i> -Type Bi <sub>0.4</sub> Sb <sub>1.6</sub> Te <sub>3</sub> by Excess Te Addition. Journal of Nanoscience and Nanotechnology, 2017, 17, 7681-7684.	0.9	1
111	Skewness: Important parameter to affect the dielectric properties of BaTiO <sub>3</sub> . Journal of Asian Ceramic Societies, 2022, 10, 613-620.	2.3	1
112	Thermoelectric Property of Agâ€doped <scp>ZnSb</scp> /Few‣ayerâ€Graphene Composites. Bulletin of the Korean Chemical Society, 2016, 37, 720-724.	1.9	0