Kyu Hyoung Lee

List of Publications by Year
in descending order

112	3,938	186265	133252
papers	citations	28 h-index	59 g-index

115	115	115	4276
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Concentrationâ€dependent excess Cu doping behavior and influence on thermoelectric properties in <scp> Bi ₂ Te ₃ </scp>. International Journal of Energy Research, 2022, 46, 3707-3713.	4.5	7
2	Enhanced Thermoelectric Properties of Ti₂FeNiSb₂ Double Halfâ€Heusler Compound by Sn Doping. Advanced Energy and Sustainability Research, 2022, 3, .	5.8	13
3	Non-oxidized bare copper nanoparticles with surface excess electrons in air. Nature Nanotechnology, 2022, 17, 285-291.	31.5	34
4	Metastable hexagonal close-packed palladium hydride in liquid cell TEM. Nature, 2022, 603, 631-636.	27.8	31
5	Vapor phase polymerization of Ag QD-embedded PEDOT film with enhanced thermoelectric and antibacterial properties. NPG Asia Materials, 2022, 14, .	7.9	3
6	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
7	Approach to Determine the Densityâ€ofâ€States Effective Mass with Carrier Concentrationâ€Dependent Seebeck Coefficient. Advanced Functional Materials, 2022, 32, .	14.9	49
8	Skewness: Important parameter to affect the dielectric properties of BaTiO₃. Journal of Asian Ceramic Societies, 2022, 10, 613-620.	2.3	1
9	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
10	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
11	Isovalent 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
12	Weighted Mobility Ratio Engineering for Highâ€Performance Biâ€“Teâ€Based Thermoelectric Materials via Suppression of Minority Carrier Transport. Advanced Materials, 2021, 33, e2005931.	21.0	39
13	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
14	High-Performance Bismuth Antimony Telluride Thermoelectric Membrane on Curved and Flexible Supports. ACS Energy Letters, 2021, 6, 2378-2385.	17.4	19
15	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
16	Hidden role of intrinsic Sb-rich nano-precipitates for high-performance Bi2-Sb Te3 thermoelectric alloys. Acta Materialia, 2021, 215, 117058.	7.9	13
17	Van der Waals electride: Toward intrinsic two-dimensional ferromagnetism of spin-polarized anionic electrons. Materials Today Physics, 2021, 20, 100473.	6.0	10
18	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

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19	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
20	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
21	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
22	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
23	Studies on phase formation behavior and thermoelectric transport properties of Cu-doped Bi2Te3â€“Bi2S3 system. Journal of Materials Research and Technology, 2021, 15, 4781-4789.	5.8	5
24	Weighted Mobility Ratio Engineering for Highâ€Performance Biâ€“Teâ€Based Thermoelectric Materials via Suppression of Minority Carrier Transport (Adv. Mater. 47/2021). Advanced Materials, 2021, 33, 2170371.	21.0	16
25	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
26	Improved polaronic transport under a strong Mottâ€“Hubbard interaction in Cu-substituted NiO. Inorganic Chemistry Frontiers, 2020, 7, 853-858.	6.0	6
27	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
28	Improvement in the thermoelectric performance of highly reproducible n-type (Bi,Sb)₂Se₃ alloys by Cl-doping. RSC Advances, 2020, 10, 24663-24668.	3.6	4
29	Hf-Doping Effect on the Thermoelectric Transport Properties of n-Type Cu0.01Bi2Te2.7Se0.3. Applied Sciences (Switzerland), 2020, 10, 4875.	2.5	3
30	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
31	Water- and acid-stable self-passivated dihafnium sulfide electride and its persistent electrocatalytic reaction. Science Advances, 2020, 6, eaba7416.	10.3	30
32	Important role of Cu in suppressing bipolar conduction in Bi-rich (Bi,Sb)2Te3. Scripta Materialia, 2020, 186, 225-229.	5.2	6
33	Interface treatment using amorphous-carbon and its applications. Scientific Reports, 2020, 10, 4093.	3.3	3
34	Ferromagnetic quasi-atomic electrons in two-dimensional electride. Nature Communications, 2020, 11, 1526.	12.8	57
35	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
36	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

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37	Facile and accelerated production of RuO2 monolayers via a dual-step intercalation process. Inorganic Chemistry Frontiers, 2020, 7, 1445-1450.	6.0	5
38	Compositional effect in pentagonal layered PdSe2-S solid-solutions and their transport properties. Scripta Materialia, 2020, 182, 6-10.	5.2	4
39	Synthesis of Au/SnO2 nanostructures allowing process variable control. Scientific Reports, 2020, 10, 346.	3.3	2
40	Band Convergence in Thermoelectric Materials: Theoretical Background and Consideration on Biâ€“Sbâ€“Te Alloys. ACS Applied Energy Materials, 2020, 3, 2214-2223.	5.1	46
41	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
42	Creation of two-dimensional layered Zintl phase by dimensional manipulation of crystal structure. Science Advances, 2019, 5, eaax0390.	10.3	19
43	Grain Boundary Interfaces Controlled by Reduced Graphene Oxide in Nonstoichiometric SrTiO3-Î´ Thermoelectrics. Scientific Reports, 2019, 9, 8624.	3.3	50
44	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
45	Revisiting Polytypism in Hexagonal Ternary Sulfide ZnIn₂S₄ for Photocatalytic Hydrogen Production Within the Z-Scheme. Chemistry of Materials, 2019, 31, 9148-9155.	6.7	47
46	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
47	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
48	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
49	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
50	Correlation between thermoelectric transport properties and crystal structure in two-dimensional CrSiTe3. Journal of Alloys and Compounds, 2019, 790, 93-98.	5.5	3
51	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
52	Influence of Pd Doping on Electrical and Thermal Properties of n-Type Cu0.008Bi2Te2.7Se0.3 Alloys. Materials, 2019, 12, 4080.	2.9	9
53	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
54	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

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55	Effective role of filling fraction control in p-type CexFe3CoSb12 skutterudite thermoelectric materials. Intermetallics, 2019, 105, 44-47.	3.9	12
56	Lowering the Schottky Barrier Height by Graphene/Ag Electrodes for Highâ€Mobility MoS₂ Fieldâ€Effect Transistors. Advanced Materials, 2019, 31, e1804422.	21.0	165
57	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
58	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
59	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
60	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
61	Dimensional Crossover Transport Induced by Substitutional Atomic Doping in SnSe₂. Advanced Electronic Materials, 2018, 4, 1700563.	5.1	18
62	Simple and efficient synthesis of nanograin structured single phase filled skutterudite for high thermoelectric performance. Acta Materialia, 2018, 142, 8-17.	7.9	44
63	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
64	Simple and effective fabrication of Sb₂Te₃ films embedded with Ag₂Te nanoprecipitates for enhanced thermoelectric performance. Journal of Materials Chemistry A, 2018, 6, 349-356.	10.3	25
65	Sputtered PdO Decorated TiO₂ Sensing Layer for a Hydrogen Gas Sensor. Journal of Nanomaterials, 2018, 2018, 1-8.	2.7	6
66	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
67	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
68	Highly fluidic liquid at homointerface generates grain-boundary dislocation arrays for high-performance bulk thermoelectrics. Acta Materialia, 2018, 159, 266-275.	7.9	19
69	Phase Formation and Thermoelectric Properties of Doped Higher Manganese Silicides (Mn15Si26). Journal of Electronic Materials, 2017, 46, 3242-3248.	2.2	13
70	Structural optimization for thermoelectric properties in Cu-Bi-S pavonite compounds. Journal of Alloys and Compounds, 2017, 704, 282-288.	5.5	8
71	Enhanced fracture toughness of Al and Bi co-doped Mg2Si by metal nanoparticle decoration. Ceramics International, 2017, 43, 12979-12982.	4.8	13
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	Strong Localization of Anionic Electrons at Interlayer for Electrical and Magnetic Anisotropy in Two-Dimensional Y₂C Electride. Journal of the American Chemical Society, 2017, 139, 615-618.	13.7	71
74	Graphene Substrate for van der Waals Epitaxy of Layerâ€Structured Bismuth Antimony Telluride Thermoelectric Film. Advanced Materials, 2017, 29, 1604899.	21.0	33
75	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
76	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
77	Direct Observation of Inherent Atomicâ€Scale Defect Disorders responsible for Highâ€Performance Ti_{1â^'}_xHf_xNiSn_{1â^'}_ySb_y Halfâ€Heusler Thermoelectric Alloys. Advanced Materials, 2017, 29, 1702091.	21.0	49
78	An Enhanced Platform to Analyse Low-Affinity Amyloid Î² Protein by Integration of Electrical Detection and Preconcentrator. Scientific Reports, 2017, 7, 14303.	3.3	17
79	Tuning the Spin-Alignment of Interstitial Electrons in Two-Dimensional Y₂C Electride via Chemical Pressure. Journal of the American Chemical Society, 2017, 139, 17277-17280.	13.7	33
80	Phonon scattering by dislocations at grain boundaries in polycrystalline Bi_{0.5}Sb_{1.5}Te₃. Physica Status Solidi (B): Basic Research, 2017, 254, 1600103.	1.5	43
81	Up-scaled solid state reaction for synthesis of doped Mg2Si. Scripta Materialia, 2017, 128, 53-56.	5.2	23
82	Effect of Substitutional Pb Doping on Bipolar and Lattice Thermal Conductivity in p-Type Bi0.48Sb1.52Te3. Materials, 2017, 10, 763.	2.9	33
83	Microstructure Analysis and Thermoelectric Properties of Melt-Spun Bi-Sb-Te Compounds. Crystals, 2017, 7, 180.	2.2	8
84	Enhanced Thermoelectric Performance of p-Type Bi_{0.4}Sb_{1.6}Te₃ by Excess Te Addition. Journal of Nanoscience and Nanotechnology, 2017, 17, 7681-7684.	0.9	1
85	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
86	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
87	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
88	Metallic conduction induced by direct anion site doping in layered SnSe2. Scientific Reports, 2016, 6, 19733.	3.3	45
89	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
90	Thermoelectric Property of Agâ€doped <scp>ZnSb</scp>/Fewâ€Layerâ€Graphene Composites. Bulletin of the Korean Chemical Society, 2016, 37, 720-724.	1.9	0

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91	Importance of crystal chemistry with interstitial site determining thermoelectric transport properties in pavonite homologue Cuâ€“Biâ€“S compounds. CrystEngComm, 2016, 18, 1453-1461.	2.6	14
92	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
93	Enhanced thermoelectric properties of Au nanodot-included Bi₂Te₃ nanotube composites. Journal of Materials Chemistry C, 2016, 4, 1313-1319.	5.5	50
94	Reduction of Lattice Thermal Conductivity in PbTe Induced by Artificially Generated Pores. Advances in Condensed Matter Physics, 2015, 2015, 1-6.	1.1	7
95	Thermoelectric Transport Properties of Cu Nanoprecipitates Embedded<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" id="M1"><mml:msub><mml:mrow><mml:mtext>Bi</mml:mtext></mml:mrow><mml:mrow><mml:mtext>2</mml:mtext></mml:mrow> Journal of Nanomaterials, 2015, 2015, 1-5.	2.7	8
96	Optimization of Synthesis Conditions of Na0.75CoO2 for High Thermoelectric Performance. Journal of Electronic Materials, 2015, 44, 1408-1412.	2.2	3
97	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
98	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
99	Synthesis of Multishell Nanoplates by Consecutive Epitaxial Growth of Bi₂Se₃ and Bi₂Te₃ Nanoplates and Enhanced Thermoelectric Properties. ACS Nano, 2015, 9, 6843-6853.	14.6	85
100	Fe-Doping Effect on Thermoelectric Properties of p-Type Bi0.48Sb1.52Te3. Materials, 2015, 8, 959-965.	2.9	22
101	Dense dislocation arrays embedded in grain boundaries for high-performance bulk thermoelectrics. Science, 2015, 348, 109-114.	12.6	1,552
102	Boundary Engineering for the Thermoelectric Performance of Bulk Alloys Based on Bismuth Telluride. ChemSusChem, 2015, 8, 2312-2326.	6.8	68
103	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
104	Enhanced thermoelectric performance of n-type Cu_{0.008}Bi₂Te_{2.7}Se_{0.3} by band engineering. Journal of Materials Chemistry C, 2015, 3, 10604-10609.	5.5	34
105	Strong correlation between the crystal structure and the thermoelectric properties of pavonite homologue Cu_{x+y}Bi_{5â^'y}Ch₈(Ch = S or Se) compounds. Journal of Materials Chemistry C, 2015, 3, 11271-11285.	5.5	9
106	Doping effects on the thermoelectric properties of Cu-intercalated Bi2Te2.7Se0.3. Current Applied Physics, 2015, 15, 190-193.	2.4	23
107	Thermoelectric characteristics of Sb2Te3 thin films formed via surfactant-assisted electrodeposition. Journal of Materials Chemistry A, 2013, 1, 5430.	10.3	49
108	Cuâ€“Biâ€“Se-based pavonite homologue: a promising thermoelectric material with low lattice thermal conductivity. Journal of Materials Chemistry A, 2013, 1, 9768.	10.3	13

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109	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
110	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
111	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
112	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