Jian Zhang

List of Publications by Year
in descending order

118 papers	4,041 citations	94269 37 h-index	149479 56 g-index
119 all docs	119 docs citations	119 times ranked	3020 citing authors

#	Article	IF	Citations
1	Extraordinary Thermoelectric Performance Realized in nâ€Type PbTe through Multiphase Nanostructure Engineering. Advanced Materials, 2017, 29, 1703148.	11.1	209
2	Realizing High Figure of Merit in Phase-Separated Polycrystalline Sn_{1â€“<i>x</i>}Pb_{<i>x</i>}Se. Journal of the American Chemical Society, 2016, 138, 13647-13654.	6.6	201
3	Achieving High Thermoelectric Figure of Merit in Polycrystalline SnSe via Introducing Sn Vacancies. Journal of the American Chemical Society, 2018, 140, 499-505.	6.6	180
4	Enhanced thermoelectric performance of p-type SnSe doped with Zn. Scripta Materialia, 2017, 126, 6-10.	2.6	116
5	Achieving high thermoelectric performance with Pb and Zn codoped polycrystalline SnSe via phase separation and nanostructuring strategies. Nano Energy, 2018, 53, 683-689.	8.2	98
6	High thermoelectric performance of n-type Bi₂Te_{2.7}Se_{0.3}<i>via</i> nanostructure engineering. Journal of Materials Chemistry A, 2018, 6, 9642-9649.	5.2	93
7	Realizing high thermoelectric performance in eco-friendly SnTe via synergistic resonance levels, band convergence and endotaxial nanostructuring with Cu2Te. Nano Energy, 2020, 73, 104832.	8.2	81
8	Chemical synthesis of nanostructured Cu2Se with high thermoelectric performance. RSC Advances, 2014, 4, 8638.	1.7	79
9	Effects of bismuth doping on the thermoelectric properties of Cu3SbSe4 at moderate temperatures. Journal of Alloys and Compounds, 2013, 561, 105-108.	2.8	75
10	A Route to Phase Controllable Cu2ZnSn(S1âˆ’xSex)4 Nanocrystals with Tunable Energy Bands. Scientific Reports, 2013, 3, 2733.	1.6	73
11	Synergistic band convergence and endotaxial nanostructuring: Achieving ultralow lattice thermal conductivity and high figure of merit in eco-friendly SnTe. Nano Energy, 2020, 67, 104261.	8.2	72
12	Enhanced thermoelectric performance of n-type Bi2Se3 doped with Cu. Journal of Alloys and Compounds, 2015, 639, 9-14.	2.8	67
13	Extremely low thermal conductivity and enhanced thermoelectric performance of polycrystalline SnSe by Cu doping. Scripta Materialia, 2018, 147, 74-78.	2.6	67
14	Simultaneous increase in conductivity and phonon scattering in a graphene nanosheets/(Bi 2 Te 3) 0.2 (Sb 2 Te 3) 0.8 thermoelectric nanocomposite. Journal of Alloys and Compounds, 2016, 661, 389-395.	2.8	66
15	Lattice Strain Leads to High Thermoelectric Performance in Polycrystalline SnSe. ACS Nano, 2021, 15, 8204-8215.	7.3	66
16	Design of Domain Structure and Realization of Ultralow Thermal Conductivity for Recordâ€High Thermoelectric Performance in Chalcopyrite. Advanced Materials, 2019, 31, e1905210.	11.1	61
17	Achieving high thermoelectric performance through constructing coherent interfaces and building interface potential barriers in n-type Bi₂Te₃/Bi₂Te_{2.7}Se_{0.3} nanocomposites. Journal of Materials Chemistry A, 2019, 7, 19120-19129.	5.2	59
18	Enhanced thermoelectric performance of Î²-Zn4Sb3 based nanocomposites through combined effects of density of states resonance and carrier energy filtering. Scientific Reports, 2015, 5, 17803.	1.6	58

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19	Enhanced thermopower and energy filtering effect from synergetic scattering at heterojunction potentials in the thermoelectric composites with semiconducting nanoinclusions. Journal of Alloys and Compounds, 2013, 558, 203-211.	2.8	57
20	Electrode activation via vesiculation: improved reversible capacity of Î³-Fe₂O₃@C/MWNT composite anodes for lithium-ion batteries. Journal of Materials Chemistry A, 2015, 3, 9682-9688.	5.2	55
21	Co-precipitation synthesis of nanostructured Cu₃SbSe₄and its Sn-doped sample with high thermoelectric performance. Dalton Transactions, 2014, 43, 1888-1896.	1.6	54
22	Enhanced thermoelectric performance of highly oriented polycrystalline SnSe based composites incorporated with SnTe nanoinclusions. Journal of Alloys and Compounds, 2016, 689, 87-93.	2.8	50
23	Enhanced thermoelectric performance of CuGaTe2 based composites incorporated with nanophase Cu2Se. Journal of Materials Chemistry A, 2014, 2, 2891.	5.2	49
24	Revisiting AgCrSe₂as a promising thermoelectric material. Physical Chemistry Chemical Physics, 2016, 18, 23872-23878.	1.3	48
25	Enhanced thermoelectric performance through carrier scattering at heterojunction potentials in BiSbTe based composites with Cu₃SbSe₄ nanoinclusions. Journal of Materials Chemistry C, 2015, 3, 7045-7052.	2.7	46
26	Transport properties and enhanced thermoelectric performance of aluminum doped Cu3SbSe4. RSC Advances, 2015, 5, 31399-31403.	1.7	46
27	Enhanced thermoelectric performance of Cu2Se/Bi0.4Sb1.6Te3 nanocomposites at elevated temperatures. Applied Physics Letters, 2016, 108, .	1.5	46
28	Nanostructured SnSe integrated with Se quantum dots with ultrahigh power factor and thermoelectric performance from magnetic field-assisted hydrothermal synthesis. Journal of Materials Chemistry A, 2019, 7, 15757-15765.	5.2	45
29	Enhanced power factor and thermoelectric performance for n-type Bi2Te2.7Se0.3 based composites incorporated with 3D topological insulator nanoinclusions. Nano Energy, 2021, 80, 105512.	8.2	44
30	Simultaneous enhancement in thermoelectric power factor and phonon blocking in hierarchical nanostructured Î²-Zn4Sb3-Cu3SbSe4. Applied Physics Letters, 2014, 104, .	1.5	43
31	Enhanced thermoelectric performance in SnSe based composites with PbTe nanoinclusions. Energy, 2016, 116, 861-866.	4.5	43
32	Enhanced thermoelectric performance via carrier energy filtering effect in Î²-Zn4Sb3 alloy bulk embedded with (Bi2Te3)0.2(Sb2Te3)0.8. Journal of Applied Physics, 2014, 115, .	1.1	42
33	Enhanced thermoelectric performance of nanostructured topological insulator Bi2Se3. Applied Physics Letters, 2015, 106, .	1.5	41
34	High-performance eco-friendly MnTe thermoelectrics through introducing SnTe nanocrystals and manipulating band structure. Nano Energy, 2021, 81, 105649.	8.2	40
35	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
36	Enhanced thermoelectric performance of BiCuSeO by increasing Seebeck coefficient through magnetic ion incorporation. Journal of Materials Chemistry A, 2017, 5, 13392-13399.	5.2	39

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37	Realizing High Thermoelectric Performance below Phase Transition Temperature in Polycrystalline SnSe via Lattice Anharmonicity Strengthening and Strain Engineering. ACS Applied Materials & Interfaces, 2018, 10, 30558-30565.	4.0	39
38	Ultralow Thermal Conductivity and High Thermoelectric Performance of N-type Bi₂Te_{2.7}Se_{0.3}-Based Composites Incorporated with GaAs Nanoinclusions. ACS Applied Materials & Interfaces, 2020, 12, 37155-37163.	4.0	39
39	Boosting Thermoelectric Performance of SnSe via Tailoring Band Structure, Suppressing Bipolar Thermal Conductivity, and Introducing Large Mass Fluctuation. ACS Applied Materials & Interfaces, 2019, 11, 45133-45141.	4.0	38
40	Self-Powered Filterless Narrow-Band pâ€“n Heterojunction Photodetector for Low Background Limited Near-Infrared Image Sensor Application. ACS Applied Materials & Interfaces, 2020, 12, 21845-21853.	4.0	37
41	High thermoelectric performance for an Ag₂Se-based material prepared by a wet chemical method. Materials Chemistry Frontiers, 2020, 4, 875-880.	3.2	35
42	Co-precipitation synthesis of Sn and/or S doped nanostructured Cu3Sb1â^’xSnxSe4â^’ySy with a high thermoelectric performance. CrystEngComm, 2013, 15, 7166.	1.3	34
43	Thermoelectric Properties of Co-Doped TiS2. Journal of Electronic Materials, 2011, 40, 980-986.	1.0	33
44	Thermoelectric properties of hydrothermally synthesized Bi2Te3â^’Sex nanocrystals. Scripta Materialia, 2012, 67, 161-164.	2.6	33
45	Enhanced thermoelectric performance of n-type SnxBi2Te2.7Se0.3 based composites embedded with in-situ formed SnBi and Te nanoinclusions. Composites Part B: Engineering, 2020, 197, 108151.	5.9	32
46	Enhanced thermoelectric performance of BiSbTe-based composites incorporated with amorphous Si₃N₄ nanoparticles. RSC Advances, 2015, 5, 34251-34256.	1.7	31
47	Light Element Doping and Introducing Spin Entropy: An Effective Strategy for Enhancement of Thermoelectric Properties in BiCuSeO. ACS Applied Materials & Interfaces, 2019, 11, 15543-15551.	4.0	31
48	Enhanced thermoelectric performance of SnSe based composites with carbon black nanoinclusions. Applied Physics Letters, 2016, 109, .	1.5	30
49	The effect of Mn substitution on thermoelectric properties of Ca3MnxCo4â^’xO9 at low temperatures. Solid State Communications, 2005, 134, 235-238.	0.9	29
50	Enhanced thermoelectric properties of neodymium intercalated compounds NdxTiS2. Physics Letters, Section A: General, Atomic and Solid State Physics, 2006, 348, 379-385.	0.9	29
51	Thermoelectric properties of nanocrystalline (Mg_{1â^’<i>x</i>}Zn_{<i>x</i>})₃Sb₂isostructural solid solutions fabricated by mechanical alloying. Journal Physics D: Applied Physics, 2009, 42, 165403.	1.3	29
52	Transport and thermoelectric properties of nanocrystal substitutional semiconductor alloys (Mg1â^’xCdx)3Sb2 doped with Ag. Journal of Alloys and Compounds, 2009, 484, 498-504.	2.8	29
53	Enhanced thermoelectric performance of a quintuple layer of Bi2Te3. Journal of Applied Physics, 2014, 116, 023706.	1.1	29
54	Enhanced thermoelectric performance of Bi 0.4 Sb 1.6 Te 3 based composites with CuInTe 2 inclusions. Journal of Alloys and Compounds, 2018, 758, 72-77.	2.8	29

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55	Enhanced thermoelectric figure of merit in p-type Î²-Zn₄Sb₃/Bi_{0.4}Sb_{1.6}Te₃ nanocomposites. RSC Advances, 2016, 6, 12243-12248.	1.7	28
56	Oriented Attachment Revisited: Does a Chemical Reaction Occur?. Matter, 2019, 1, 690-704.	5.0	27
57	Improved Figure of Merit of Cu₂SnSe₃ via Band Structure Modification and Energy-Dependent Carrier Scattering. ACS Applied Materials & Interfaces, 2020, 12, 19693-19700.	4.0	27
58	Enhanced thermoelectric properties of Ag-doped compounds CuAgxGa1âˆ’xTe2 (0â©½xâ©½0.05). Journal of Alloys and Compounds, 2014, 586, 285-288.	2.8	24
59	Preparation and enhanced thermoelectric performance of Pb-doped tetrahedrite Cu12-xPbxSb4S13. Journal of Alloys and Compounds, 2018, 769, 478-483.	2.8	24
60	High thermoelectric properties for Sn-doped AgSbSe 2. Journal of Alloys and Compounds, 2015, 635, 87-91.	2.8	23
61	Enhanced thermoelectric properties of bismuth intercalated compounds BixTiS2. Solid State Communications, 2005, 135, 237-240.	0.9	22
62	Thermoelectric anisotropy of n-type Bi₂Te_{3âˆ’x}Se_x prepared by spark plasma sintering. RSC Advances, 2015, 5, 43717-43722.	1.7	22
63	Enhancement of thermoelectric performance of Î²-Zn₄Sb₃ through resonant distortion of electronic density of states doped with Gd. Journal of Materials Chemistry A, 2015, 3, 11768-11772.	5.2	22
64	Realized high power factor and thermoelectric performance in Cu3SbSe4. Intermetallics, 2019, 109, 68-73.	1.8	22
65	Realization of High Thermoelectric Performance in Polycrystalline Tin Selenide through Schottky Vacancies and Endotaxial Nanostructuring. Chemistry of Materials, 2020, 32, 9761-9770.	3.2	22
66	Electrical transport behavior of Ca3MnxCo4âˆ’xO9 (0â©½xâ©½1.28) at low temperatures. Journal of Applied Physics, 2006, 99, 053709.	1.1	21
67	Enhanced thermoelectric performance of highly dense and fine-grained (Sr1âˆ’xGdx)TiO3âˆ’Î´ ceramics synthesized by solâ€“gel process and spark plasma sintering. Journal of Alloys and Compounds, 2014, 588, 562-567.	2.8	21
68	Realized high power factor and thermoelectric performance in Cu2SnSe3. Scripta Materialia, 2019, 159, 46-50.	2.6	21
69	Thermoelectric performance of nanostructured In/Pb codoped SnTe with band convergence and resonant level prepared <i>via</i> a green and facile hydrothermal method. Nanoscale, 2020, 12, 5857-5865.	2.8	21
70	Achieving High Thermoelectric Performance in p-Type BST/PbSe Nanocomposites through the Scattering Engineering Strategy. ACS Applied Materials & Interfaces, 2020, 12, 46181-46189.	4.0	20
71	Enhanced thermoelectric performance of Î²-Zn4Sb3 based composites incorporated with large proportion of nanophase Cu3SbSe4. Journal of Alloys and Compounds, 2014, 588, 568-572.	2.8	19
72	High Thermoelectric Performance of SnTe via In Doping and Cu1.75Se Nanostructuring Approach. ACS Applied Energy Materials, 2019, 2, 8966-8973.	2.5	19

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73	Achieving high power factor and thermoelectric performance through dual substitution of Zn and Se in tetrahedrites Cu12Sb4S13. Applied Physics Letters, 2019, 115, .	1.5	19
74	Ultralow Thermal Conductivity and Extraordinary Thermoelectric Performance Realized in Codoped Cu₃SbSe₄ by Plasma Spark Sintering. ACS Applied Materials & Interfaces, 2020, 12, 3886-3892.	4.0	19
75	Improving the power factor and figure of merit of p-type CuSbSe₂<i>via</i> introducing Sb vacancies. Journal of Materials Chemistry C, 2021, 9, 14858-14865.	2.7	19
76	Enhanced thermoelectric properties of iron doped compound (Zn1â^'xFex)4Sb3. Intermetallics, 2010, 18, 1106-1110.	1.8	18
77	Thermoelectric properties of TiS2-xPbSnS3 nanocomposites. Journal of Alloys and Compounds, 2017, 696, 1342-1348.	2.8	18
78	Enhanced thermoelectric performance of PbTe based materials by Bi doping and introducing MgO nanoparticles. Applied Physics Letters, 2020, 117, .	1.5	18
79	Improved Thermoelectric Performance of Cu₁₂Sb₄S₁₃ through Gd-Substitution Induced Enhancement of Electronic Density of States and Phonon Scattering. ACS Applied Materials & Interfaces, 2021, 13, 25092-25101.	4.0	18
80	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
81	The effects of elements doping on transport and thermoelectric properties of Sr3Ti2O7. Journal of Physics and Chemistry of Solids, 2014, 75, 629-637.	1.9	16
82	Achieving a High Thermoelectric Performance of Tetrahedrites by Adjusting the Electronic Density of States and Enhancing Phonon Scattering. ACS Applied Materials & Interfaces, 2019, 11, 23361-23371.	4.0	16
83	Synergetic modulation of power factor and thermal conductivity for Cu3SbSe4-based system. Materials Today Energy, 2020, 18, 100491.	2.5	16
84	Ultralow Thermal Conductivity and Enhanced Figure of Merit for CuSbSe₂ via Cd-Doping. ACS Applied Energy Materials, 2021, 4, 1637-1643.	2.5	16
85	The transport and thermoelectric properties of Cd doped compounds (CdxTi1â^'x)1+yS2. Journal of Alloys and Compounds, 2009, 479, 816-820.	2.8	15
86	Synthesis and thermoelectric properties of Zn4Sb3/Bi0.5Sb1.5Te3 bulk nanocomposites. Journal of Alloys and Compounds, 2010, 500, 215-219.	2.8	15
87	Enhanced thermoelectric performance of CuGaTe2 based composites incorporated with graphite nanosheets. Applied Physics Letters, 2016, 108, .	1.5	15
88	Mechanical and magnetic properties of Î3-Niâ€"xFe/Al2O3 composites. Composites Science and Technology, 2007, 67, 1530-1540.	3.8	14
89	Enhanced thermoelectric performance of CuGaTe2 by Gd-doping and Te incorporation. Intermetallics, 2015, 60, 45-49.	1.8	14
90	Introducing PbSe quantum dots and manipulating lattice strain contributing to high thermoelectric performance in polycrystalline SnSe. Materials Today Physics, 2021, 21, 100542.	2.9	14

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91	Synergistically optimized electrical and thermal properties by introducing electron localization and phonon scattering centers in CuGaTe₂ with enhanced mechanical properties. Journal of Materials Chemistry C, 2020, 8, 7534-7542.	2.7	13
92	Synergistic optimization of electrical and thermal transport in n-type Bi-doped PbTe by introducing coherent nanophase Cu1.75Te. Journal of Materiomics, 2021, 7, 146-155.	2.8	13
93	The effect of Mg substitution for Ti on transport and thermoelectric properties of TiS2. Journal of Applied Physics, 2007, 102, 073703.	1.1	12
94	High thermoelectric performance of tetrahedrites through InSb inclusion. Materialia, 2018, 3, 169-173.	1.3	12
95	Fabrication of nanocrystalline Mg3X2 (X=Bi, Sb) with supersaturated solid solubility by mechanical alloying. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2006, 128, 192-200.	1.7	11
96	The electrical and thermal conductivity and thermopower of nickel doped compounds (NixTi1â^'x)1+yS2at low temperatures. Journal Physics D: Applied Physics, 2006, 39, 1230-1236.	1.3	11
97	Electrical transport and thermoelectric properties of Y1â^'xCaxCoO3 (0â©½xâ©½0.1) at high temperatures. Journal of Applied Physics, 2007, 101, 083709.	1.1	11
98	Simultaneously enhanced power factor and phonon scattering in Bi0.4Sb1.6Te3 alloy doped with germanium. Scripta Materialia, 2018, 154, 118-122.	2.6	11
99	Improving the thermoelectric performance of Cu₂SnSe₃<i>via</i> regulating micro- and electronic structures. Nanoscale, 2021, 13, 4233-4240.	2.8	11
100	High temperature thermoelectric properties of Nb-doped ZnO ceramics. Journal of Physics and Chemistry of Solids, 2013, 74, 1811-1815.	1.9	10
101	Ultra-low thermal conductivity and high thermoelectric performance realized in a Cu₃SbSe₄ based system. Materials Chemistry Frontiers, 2021, 5, 324-332.	3.2	10
102	Effects of Sb Deviation from Its Stoichiometric Ratio on the Micro- and Electronic Structures and Thermoelectric Properties of Cu₁₂Sb₄S₁₃. ACS Applied Materials & Interfaces, 2020, 12, 14145-14153.	4.0	9
103	Graphene modified Li-rich cathode material Li[Li_{0.26}Ni_{0.07}Co_{0.07}<font>Mn</fon for lithium ion battery. Functional Materials Letters, 2014, 07, 1440013.	0.7	8
104	Improved thermoelectric properties of gadolinium intercalated compounds GdxTiS2 at the temperaturesfrom 5 to 310 K. Journal of Materials Research, 2006, 21, 480-483.	1.2	7
105	Synthesis of monodispersed nanometer-sized YAG powders by a modified coprecipitation method. Journal of Rare Earths, 2008, 26, 674-677.	2.5	7
106	Optimized thermoelectric properties of AgSbTe2 through adjustment of fabrication parameters. Electronic Materials Letters, 2015, 11, 133-137.	1.0	7
107	The effects of high-pressure compression on transport and thermoelectric properties of TiS2 at low temperatures from 5 to 310 K. Journal of Applied Physics, 2008, 103, 123704.	1.1	6
108	Thermoelectric Performance for SnSe Hot-Pressed at Different Temperature. Journal of Electronic Materials, 2017, 46, 79-84.	1.0	6

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109	Transport and thermoelectric properties of Sr3(Ti0.95R0.05)2O7 (Râ€‰=â€‰Ta, Nb, W) oxides. Journal of Applied Physics, 2012, 112, .	1.1	5
110	Thermoelectric properties of homogeneously and non-homogeneously doped CdTe15/16M1/16 (M=N, P,) Tj ETQq0 0 0 rgBT /Overlock 1	1.9	4
111	Ultralow Lattice Thermal Conductivity and High Thermoelectric Figure of Merit in Dually Substituted Cu₁₂Sb₄S₁₃ Tetrahedrites. Advanced Electronic Materials, 2022, 8, .	2.6	4
112	Transport and thermoelectric properties of n-type Ruddlesdenâ€“Popper phase (Sr1â^'xGdx)3(Ti1â^'yTay)2O7oxides. Journal Physics D: Applied Physics, 2012, 45, 415401.	1.3	3
113	Effects of topological edge states on the thermoelectric properties of Bi nanoribbons. Physics Letters, Section A: General, Atomic and Solid State Physics, 2017, 381, 3167-3172.	0.9	3
114	The Anisotropic High Thermoelectric Performance in (BixSb1-x)2Te3. International Journal of Metallurgical & Materials Engineering, 2017, 3, .	0.1	3
115	Pressure-induced structural phase transition in wide-gap molecular solid CF4. Chemical Physics Letters, 2011, 512, 223-226.	1.2	2
116	Preparation and thermoelectric properties of rare-earth-metal-doped SrO(SrTiO3)n oxides. Procedia Engineering, 2012, 27, 103-108.	1.2	2
117	Electrical and Magnetic Properties for Bulk FeSe and FeSe0.5Te0.5 Superconductors. Journal of Electronic Materials, 2021, 50, 941-946.	1.0	2
118	Fabrication and thermoelectric properties of n-type (Sr0.9Gd0.1)TiO3 oxides. Functional Materials Letters, 2014, 07, 1450014.	0.7	0