Xiaojian Tan

List of Publications by Citations

109 papers	3,675 citations	30 h-index	58 g-index
118 ext. papers	4,437 ext. citations	7.9 avg, IF	5.49 L-index

#	Paper	IF	Citations
109	Convergence of conduction bands as a means of enhancing thermoelectric performance of n-type Mg2Si(1-x)Sn(x) solid solutions. *Physical Review Letters*, **2012**, 108, 166601	7.4	854
108	Micro-sized nano-porous Si/C anodes for lithium ion batteries. *Nano Energy*, **2015**, 11, 490-499	17.1	201
107	Valence band engineering and thermoelectric performance optimization in SnTe by Mn-alloying via a zone-melting method. *Journal of Materials Chemistry A*, **2015**, 3, 19974-19979	13	120
106	Enhanced thermoelectric performance in p-type polycrystalline SnSe benefiting from texture modulation. *Journal of Materials Chemistry C*, **2016**, 4, 1201-1207	7.1	112
105	Thermoelectric Properties of a Monolayer Bismuth. *Journal of Physical Chemistry C*, **2014**, 118, 904-910	3.8	105
104	Thermoelectric properties of armchair and zigzag silicene nanoribbons. *Physical Chemistry Chemical Physics*, **2012**, 14, 13588-93	3.6	102
103	First-principles study of monolayer and bilayer honeycomb structures of group-IV elements and their binary compounds. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2011**, 375, 614-619	2.3	88
102	Optimization of thermoelectric properties in n-type SnSe doped with BiCl3. *Applied Physics Letters*, **2016**, 108, 083902	3.4	86
101	Rational Construction of FeN@C Yolk-Shell Nanoboxes as Multifunctional Hosts for Ultralong Lithium-Sulfur Batteries. *ACS Nano*, **2019**, 13, 12137-12147	16.7	84
100	Multiscale calculations of thermoelectric properties of n-type Mg2Si1−xSnx solid solutions. *Physical Review B*, **2012**, 85,	3.3	82
99	Manipulating the Ge Vacancies and Ge Precipitates through Cr Doping for Realizing the High-Performance GeTe Thermoelectric Material. *Small*, **2020**, 16, e1906921	11	80
98	High quality graphene sheets from graphene oxide by hot-pressing. *Carbon*, **2013**, 54, 143-148	10.4	72
97	Band engineering and improved thermoelectric performance in M-doped SnTe (M = Mg, Mn, Cd, and Hg). *Physical Chemistry Chemical Physics*, **2016**, 18, 7141-7	3.6	69
96	Enhanced thermoelectric performance through crystal field engineering in transition metal-doped GeTe. *Materials Today Physics*, **2019**, 9, 100094	8	66
95	Manipulating Band Convergence and Resonant State in Thermoelectric Material SnTe by Mn-In Codoping. *ACS Energy Letters*, **2017**, 2, 1203-1207	20.1	65
94	Enhanced thermoelectric performance of graphene nanoribbons. *Applied Physics Letters*, **2012**, 100, 093104	3.4	60
93	Enhanced thermopower in rock-salt SnTe-CdTe from band convergence. *RSC Advances*, **2016**, 6, 32189-32192	3.7	56

92	High thermoelectric performance in two-dimensional graphyne sheets predicted by first-principles calculations. *Physical Chemistry Chemical Physics*, **2015**, 17, 22872-81	3.6	53
91	Designing band engineering for thermoelectrics starting from the periodic table of elements. *Materials Today Physics*, **2018**, 7, 35-44	8	50
90	The realization of a high thermoelectric figure of merit in Ge-substituted Zn4Sb3 through band structure modification. *Journal of Materials Chemistry*, **2012**, 22, 13977		49
89	A first-principles study on the phonon transport in layered BiCuOSe. *Scientific Reports*, **2016**, 6, 21035	4.9	44
88	Enhanced thermoelectric performance of (Sb0.75Bi0.25)2Te3 compound from first-principles calculations. *Applied Physics Letters*, **2010**, 96, 142101	3.4	43
87	Naturally abundant high-performance rechargeable aluminum/iodine batteries based on conversion reaction chemistry. *Journal of Materials Chemistry A*, **2018**, 6, 9984-9996	13	42
86	Texturing degree boosts thermoelectric performance of silver-doped polycrystalline SnSe. *NPG Asia Materials*, **2017**, 9, e426-e426	10.3	38
85	Constructing hierarchical urchin-like LiNi0.5Mn1.5O4 hollow spheres with exposed {111} facets as advanced cathode material for lithium-ion batteries. *Nano Energy*, **2018**, 54, 175-183	17.1	34
84	Improving Thermoelectric Performance of MgAgSb by Theoretical Band Engineering Design. *Advanced Energy Materials*, **2017**, 7, 1700076	21.8	32
83	Element-selective resonant state in M-doped SnTe (M = Ga, In, and Tl). *Physical Chemistry Chemical Physics*, **2016**, 18, 20635-9	3.6	32
82	Enhanced thermoelectric performance in n-type polycrystalline SnSe by PbBr2 doping. *RSC Advances*, **2017**, 7, 17906-17912	3.7	30
81	Charge Transport in Thermoelectric SnSe Single Crystals. *ACS Energy Letters*, **2018**, 3, 689-694	20.1	30
80	Thermoelectric properties of In-Hg co-doping in SnTe: Energy band engineering. *Journal of Materiomics*, **2018**, 4, 62-67	6.7	30
79	Optimizing the thermoelectric performance of In Cd codoped SnTe by introducing Sn vacancies. *Journal of Materials Chemistry C*, **2017**, 5, 7504-7509	7.1	29
78	Thermoelectric (Bi,Sb)2Te3 Ge0.5Mn0.5Te composites with excellent mechanical properties. *Journal of Materials Chemistry A*, **2019**, 7, 9241-9246	13	28
77	High lithium electroactivity of boron-doped hierarchical rutile submicrosphere TiO2. *Journal of Materials Chemistry A*, **2014**, 2, 10599-10606	13	28
76	Nontrivial thermoelectric behavior in cubic SnSe driven by spin-orbit coupling. *Nano Energy*, **2018**, 51, 649-655	17.1	27
75	Synergetic optimization of electronic and thermal transport for high-performance thermoelectric GeSe AgSbTe2 alloy. *Journal of Materials Chemistry A*, **2018**, 6, 8215-8220	13	26

74	Study on Thermoelectric Properties of Polycrystalline SnSe by Ge Doping. *Journal of Electronic Materials*, **2017**, 46, 3182-3186	1.9	24
73	Synergistic Optimization of Thermoelectric Performance in P-Type Bi0.48Sb1.52Te3/Graphene Composite. *Energies*, **2016**, 9, 236	3.1	24
72	Synthesis of SnTe/AgSbSe2 nanocomposite as a promising lead-free thermoelectric material. *Journal of Materiomics*, **2016**, 2, 165-171	6.7	24
71	Thermoelectric properties of textured polycrystalline Na0.03Sn0.97Se enhanced by hot deformation. *Journal of Materials Chemistry A*, **2018**, 6, 23730-23735	13	24
70	Ultralow Lattice Thermal Conductivity in SnTe by Manipulating the Electron□Phonon Coupling. *Journal of Physical Chemistry C*, **2019**, 123, 15996-16002	3.8	22
69	Fermi-surface dynamics and high thermoelectric performance along the out-of-plane direction in n-type SnSe crystals. *Energy and Environmental Science*, **2020**, 13, 616-621	35.4	21
68	Commensurate lattice constant dependent thermal conductivity of misoriented bilayer graphene. *Carbon*, **2018**, 138, 451-457	10.4	21
67	Synergistically Optimized Thermoelectric Performance in Bi0.48Sb1.52Te3 by Hot Deformation and Cu Doping. *ACS Applied Energy Materials*, **2019**, 2, 6714-6719	6.1	21
66	Thermoelectric Properties of Ultrasmall Single-Wall Carbon Nanotubes. *Journal of Physical Chemistry C*, **2011**, 115, 21996-22001	3.8	21
65	Band engineering and crystal field screening in thermoelectric Mg3Sb2. *Journal of Materials Chemistry A*, **2019**, 7, 8922-8928	13	20
64	Application of urea precipitation method in preparation of advanced ceramic powders. *Ceramics International*, **2015**, 41, 11598-11604	5.1	20
63	Theoretical understanding on band engineering of Mn-doped lead chalcogenides PbX (X = Te, Se, S). *Journal of Physics Condensed Matter*, **2015**, 27, 095501	1.8	19
62	Phonon Engineering for Thermoelectric Enhancement of p-Type Bismuth Telluride by a Hot-Pressing Texture Method. *ACS Applied Materials & Interfaces*, **2020**, 12, 31612-31618	9.5	19
61	First-principles study on the elastic properties of Cu 2 GeSe 3. *Europhysics Letters*, **2016**, 113, 26001	1.6	19
60	Bi□n codoping in GeTe synergistically enhances band convergence and phonon scattering for high thermoelectric performance. *Journal of Materials Chemistry A*, **2020**, 8, 21642-21648	13	18
59	First-principles study on the lattice dynamics and thermodynamic properties of Cu 2 GeSe 3. *Europhysics Letters*, **2015**, 109, 47004	1.6	16
58	Optimizing the thermoelectric performance of zigzag and chiral carbon nanotubes. *Nanoscale Research Letters*, **2012**, 7, 116	5	15
57	Ultra-stable binder-free rechargeable Li/I batteries enabled by "Betadine" chemical interaction. *Chemical Communications*, **2018**, 54, 12337-12340	5.8	15

56	Acoustic phonon softening and reduced thermal conductivity in Mg2Si1−xSnx solid solutions. *Applied Physics Letters*, **2017**, 110, 143903	3.4	14
55	Optimized orientation and enhanced thermoelectric performance in Sn0.97Na0.03Se with Te addition. *Journal of Materials Chemistry C*, **2019**, 7, 2653-2658	7.1	13
54	Enhanced power factor in the promising thermoelectric material SnPbxTe prepared via zone-melting. *RSC Advances*, **2015**, 5, 59379-59383	3.7	13
53	Mechanism investigation of iron selenide as polysulfide mediator for long-life lithium-sulfur batteries. *Chemical Engineering Journal*, **2021**, 416, 129166	14.7	13
52	Microstructure engineering beyond SnSe1-xSx solid solution for high thermoelectric performance. *Journal of Materiomics*, **2018**, 4, 321-328	6.7	13
51	Structural, Electronic, and Thermoelectric Properties of BiSb Nanotubes. *Journal of Physical Chemistry C*, **2010**, 114, 21234-21239	3.8	12
50	Studies of Graphdiyne-ZnO Nanocomposite Material and Application in Polymer Solar Cells. *Solar Rrl*, **2018**, 2, 1800211	7.1	12
49	Effects of AgBiSe2 on thermoelectric properties of SnTe. *Chemical Engineering Journal*, **2020**, 390, 124585	14.7	11
48	Theoretical study of the thermoelectric properties of SiGe nanotubes. *RSC Advances*, **2014**, 4, 53037-53043	3.7	10
47	Ultrafine Gd 2 O 2 S:Pr powders prepared via urea precipitation method using SO 2 /SO 4 2− as sulfuration agent: A comparative study. *Powder Technology*, **2017**, 305, 382-388	5.2	10
46	First-principles study of alkali-atom doping in a series of zigzag and armchair carbon nanotubes. *Journal of Applied Physics*, **2010**, 107, 034312	2.5	10
45	A Triplet Form of (5,0) Carbon Nanotube with Higher Hydrogen Storage Capacity. *Journal of Physical Chemistry C*, **2011**, 115, 9227-9231	3.8	10
44	Enhanced Thermoelectric Properties of p-Type BiSbTe/SbTe Composite. *ACS Applied Materials & Interfaces*, **2020**, 12, 52922-52928	9.5	10
43	Refined band structure plus enhanced phonon scattering realizes thermoelectric performance optimization in CuIMn codoped SnTe. *Journal of Materials Chemistry A*, **2021**, 9, 13065-13070	13	10
42	Achieving high-performance p-type SmMg2Bi2 thermoelectric materials through band engineering and alloying effects. *Journal of Materials Chemistry A*, **2020**, 8, 15760-15766	13	9
41	Investigation on structure and thermoelectric properties in p-type Bi0.48Sb1.52Te3 via PbTe incorporating. *Journal of Materials Science: Materials in Electronics*, **2018**, 29, 7701-7706	2.1	9
40	Improved thermoelectric performance in PbSe-AgSbSe2 by manipulating the spin-orbit coupling effects. *Nano Energy*, **2020**, 78, 105232	17.1	9
39	Investigating the thermoelectric performance of n-type SnSe: the synergistic effect of NbCl5 doping and dislocation engineering. *Journal of Materials Chemistry C*, **2020**, 8, 13244-13252	7.1	9

38	Improved Thermoelectric Properties of BiSbTe-AgBiSe2 Alloys by Suppressing Bipolar Excitation. *ACS Applied Energy Materials*, **2021**, 4, 2944-2950	6.1	9
37	Achieving High Thermoelectric Performance of n-Type BiTeSe Sintered Materials by Hot-Stacked Deformation. *ACS Applied Materials & Interfaces*, **2021**, 13, 15429-15436	9.5	9
36	Enhanced thermoelectric performance of p-type sintered BiSbTe-based composites with AgSbTe2 addition. *Ceramics International*, **2021**, 47, 725-731	5.1	9
35	Enhanced thermoelectric performance in p-type polycrystalline SnSe by Cu doping. *Journal of Materials Science: Materials in Electronics*, **2018**, 29, 18727-18732	2.1	9
34	Improvement of thermoelectric properties of SnTe by Mn Bi codoping. *Chemical Engineering Journal*, **2021**, 421, 127795	14.7	9
33	Texture Development and Grain Alignment of Hot-Pressed Tetradymite Bi0.48Sb1.52Te3 via Powder Molding. *Energy Technology*, **2019**, 7, 1900814	3.5	8
32	Stabilization of Thermoelectric Properties of the Cu/Bi0.48Sb1.52Te3 Composite for Advantageous Power Generation. *Journal of Electronic Materials*, **2017**, 46, 2746-2751	1.9	8
31	The properties of BiSb nanoribbons from first-principles calculations. *Nanoscale*, **2012**, 4, 511-7	7.7	8
30	Enhanced Thermoelectric and Mechanical Performances in Sintered BiSbTe-AgSbSe Composite. *ACS Applied Materials & Interfaces*, **2021**, 13, 24937-24944	9.5	8
29	Band flattening and phonon-defect scattering in cubic SnSe-AgSbTe2 alloy for thermoelectric enhancement. *Materials Today Physics*, **2021**, 16, 100298	8	8
28	Thermoelectric properties of small diameter carbon nanowires. *Carbon*, **2013**, 53, 286-291	10.4	6
27	Thermoelectric Performance Optimization and Phase Transition of GeTe by Alloying with Orthorhombic CuSbSe2. *ACS Applied Energy Materials*, **2021**, 4, 4242-4247	6.1	6
26	Magnetic and electronic properties of silicane with hydrogen vacancies on the surface. *Applied Surface Science*, **2012**, 258, 10135-10139	6.7	5
25	Expand band gap and suppress bipolar excitation to optimize thermoelectric performance of Bi0.35Sb1.65Te3 sintered materials. *Materials Today Physics*, **2021**, 21, 100544	8	5
24	Broadening the optimum thermoelectric power generation range of p-type sintered Bi0.4Sb1.6Te3 by suppressing bipolar effect. *Chemical Engineering Journal*, **2021**, 426, 131853	14.7	5
23	Reducing the thermal conductivity of silicon by nanostructure patterning. *Applied Physics A: Materials Science and Processing*, **2013**, 110, 93-98	2.6	4
22	Thermal Conductivity of Graphene Nanoribbons with Regular Isotopic Modification. *Journal of Computational and Theoretical Nanoscience*, **2014**, 11, 348-352	0.3	4
21	Energetics and Electronic Properties of Small Diameter Si and Ge Nanotubes. *Journal of Computational and Theoretical Nanoscience*, **2010**, 7, 1935-1940	0.3	4

20	A first-principles study on the intrinsic phonon transport of Cu 2 GeSe 3. *Europhysics Letters*, **2016**, 115, 26002	1.6	4
19	Understanding the Band Engineering in Mg2Si-Based Systems from Wannier-Orbital Analysis. *Annalen Der Physik*, **2020**, 532, 1900543	2.6	3
18	First-Principles Study of Manipulating the Phonon Transport of Molybdenum Disulfide by Sodium Intercalating. *Journal of Physical Chemistry C*, **2018**, 122, 2632-2640	3.8	3
17	Ultralow thermal conductivity and improved ZT of CuInTe2 by high-entropy structure design. *Materials Today Physics*, **2021**, 18, 100394	8	3
16	Synergistic effects of B-In codoping in zone-melted Bi0.48Sb1.52Te3-based thermoelectric. *Chemical Engineering Journal*, **2021**, 420, 130381	14.7	3
15	Mediating Point Defects Endows n-Type Bi Te with High Thermoelectric Performance and Superior Mechanical Robustness for Power Generation Application.. *Small*, **2022**, e2201352	11	3
14	Optimized Thermoelectric Properties of BiSbTe through AgCuTe Doping for Low-Grade Heat Harvesting. *ACS Applied Materials & Interfaces*, **2021**, 13, 57514-57520	9.5	2
13	Raised solubility in SnTe by GeMnTe2 alloying enables converged valence bands, low thermal conductivity, and high thermoelectric performance. *Nano Energy*, **2022**, 94, 106940	17.1	2
12	Boosting the Thermoelectric Performance of PbSe from the Band Convergence Driven By Spin-Orbit Coupling. *Advanced Energy Materials*,2103287	21.8	2
11	Boosted carrier mobility and enhanced thermoelectric properties of polycrystalline Na0.03Sn0.97Se by liquid-phase hot deformation. *Materials Advances*, **2020**, 1, 1092-1098	3.3	2
10	Single-crystal growth of n-type SnS0.95 by the temperature-gradient technique. *Vacuum*, **2020**, 182, 109789	3.7	2
9	Energetics of Stone-Wales defects in 4 A carbon nanotubes. *Journal of Nanoscience and Nanotechnology*, **2010**, 10, 2332-5	1.3	1
8	Unusually high Seebeck coefficient arising from temperature-dependent carrier concentration in PbSe–AgSbSe2 alloys. *Journal of Materials Chemistry C*, **2021**, 9, 17365-17370	7.1	1
7	Synergistically Optimized Thermoelectric and Mechanical Properties in p-Type BiSbTe by a Microdroplet Deposition Technique. *Energy Technology*, **2021**, 9, 2001024	3.5	1
6	Spin-glass behavior and magnetocaloric properties of high-entropy perovskite oxides. *Applied Physics Letters*, **2022**, 120, 082404	3.4	1
5	Effects of interfacial properties on conversion efficiency of Bi2Te3-based segmented thermoelectric devices. *Applied Physics Letters*, **2021**, 119, 233902	3.4	1
4	Anomalous Thermopower and High in GeMnTe Driven by Spin‐Thermodynamic Entropy. *Research*, **2021**, 2021, 1949070	7.8	0
3	Dramatically enhanced Seebeck coefficient in GeMnTe-NaBiTe alloys by tuning the Spin‐thermodynamic entropy. *Physical Chemistry Chemical Physics*, **2021**, 23, 17866-17872	3.6	0

2	A high-efficiency GeTe-based thermoelectric module for low-grade heat recovery. *Journal of Materials Chemistry A*, **2022**, 10, 7677-7683	13	0
1	Three-dimensional hybridized carbon networks for high performance thermoelectric applications. *RSC Advances*, **2014**, 4, 42234-42239	3.7	