Xiao-Lei Shi

List of Publications by Year
in descending order

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Version: 2024-02-01

63 papers	5,331 citations	101543 36 h-index	110387 64 g-index
64 all docs	64 docs citations	64 times ranked	3048 citing authors

#	Article	IF	Citations
1	Advanced Thermoelectric Design: From Materials and Structures to Devices. Chemical Reviews, 2020, 120, 7399-7515.	47.7	1,248
2	Flexible Thermoelectric Materials and Generators: Challenges and Innovations. Advanced Materials, 2019, 31, e1807916.	21.0	419
3	Flexible thermoelectric materials and devices: From materials to applications. Materials Today, 2021, 46, 62-108.	14.2	206
4	Flexible Carbon-Fiber/Semimetal Bi Nanosheet Arrays as Separable and Recyclable Plasmonic Photocatalysts and Photoelectrocatalysts. ACS Applied Materials & Interfaces, 2020, 12, 24845-24854.	8.0	161
5	Conducting polymer-based flexible thermoelectric materials and devices: From mechanisms to applications. Progress in Materials Science, 2021, 121, 100840.	32.8	160
6	Highâ€Performance Thermoelectric SnSe: Aqueous Synthesis, Innovations, and Challenges. Advanced Science, 2020, 7, 1902923.	11.2	156
7	High-Performance PEDOT:PSS Flexible Thermoelectric Materials and Their Devices by Triple Post-Treatments. Chemistry of Materials, 2019, 31, 5238-5244.	6.7	153
8	Fiber-based thermoelectrics for solid, portable, and wearable electronics. Energy and Environmental Science, 2021, 14, 729-764.	30.8	143
9	SrTiO3-based thermoelectrics: Progress and challenges. Nano Energy, 2020, 78, 105195.	16.0	127
10	Realizing High Thermoelectric Performance in nâ€Type Highly Distorted Sbâ€Doped SnSe Microplates via Tuning High Electron Concentration and Inducing Intensive Crystal Defects. Advanced Energy Materials, 2018, 8, 1800775.	19.5	120
11	Realizing high thermoelectric properties of SnTe via synergistic band engineering and structure engineering. Nano Energy, 2019, 65, 104056.	16.0	116
12	Enhanced thermoelectric properties of nanostructured n-type Bi2Te3 by suppressing Te vacancy through non-equilibrium fast reaction. Chemical Engineering Journal, 2020, 391, 123513.	12.7	108
13	High-performance in n-type PbTe-based thermoelectric materials achieved by synergistically dynamic doping and energy filtering. Nano Energy, 2022, 91, 106706.	16.0	107
14	Bi0.5Sb1.5Te3/PEDOT:PSS-based flexible thermoelectric film and device. Chemical Engineering Journal, 2020, 397, 125360.	12.7	104
15	Novel Thermal Diffusion Temperature Engineering Leading to High Thermoelectric Performance in Bi₂Te₃â€Based Flexible Thinâ€Films. Advanced Science, 2022, 9, e2103547.	11.2	102
16	Thermoelectrics for medical applications: Progress, challenges, and perspectives. Chemical Engineering Journal, 2022, 437, 135268.	12.7	101
17	Wearable fiber-based thermoelectrics from materials to applications. Nano Energy, 2021, 81, 105684.	16.0	92
18	High Porosity in Nanostructured n-Type Bi₂Te₃ Obtaining Ultralow Lattice Thermal Conductivity. ACS Applied Materials & Interfaces, 2019, 11, 31237-31244.	8.0	91

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19	Rational band engineering and structural manipulations inducing high thermoelectric performance in n-type CoSb3 thin films. Nano Energy, 2021, 81, 105683.	16.0	82
20	A Solvothermal Synthetic Environmental Design for Highâ€Performance SnSeâ€Based Thermoelectric Materials. Advanced Energy Materials, 2022, 12, .	19.5	82
21	Thermoelectric Coolers: Progress, Challenges, and Opportunities. Small Methods, 2022, 6, e2101235.	8.6	77
22	Rational structural design and manipulation advance SnSe thermoelectrics. Materials Horizons, 2020, 7, 3065-3096.	12.2	73
23	Biomassâ€Derived Carbon for Highâ€Performance Batteries: From Structure to Properties. Advanced Functional Materials, 2022, 32, .	14.9	71
24	Two-dimensional nanocoating-enabled orthopedic implants for bimodal therapeutic applications. Nanoscale, 2020, 12, 11936-11946.	5.6	69
25	Full-spectrum responsive photocatalytic activity via non-noble metal Bi decorated mulberry-like BiVO4. Journal of Materials Science and Technology, 2021, 83, 102-112.	10.7	66
26	Anisotropy Controlâ€“Induced Unique Anisotropic Thermoelectric Performance in the nâ€Type Bi₂Te_{2.7}Se_{0.3} Thin Films. Small Methods, 2019, 3, 1900582.	8.6	58
27	High Carrier Mobility and High Figure of Merit in the CuBiSe₂ Alloyed GeTe. Advanced Energy Materials, 2021, 11, 2102913.	19.5	52
28	Two-dimensional WSe2/SnSe p-n junctions secure ultrahigh thermoelectric performance in n-type Pb/I Co-doped polycrystalline SnSe. Materials Today Physics, 2021, 16, 100306.	6.0	51
29	Rational Electronic and Structural Designs Advance BiCuSeO Thermoelectrics. Advanced Functional Materials, 2021, 31, 2101289.	14.9	48
30	Optimization of sodium hydroxide for securing high thermoelectric performance in polycrystalline Sn_{1 â^' x}Se via anisotropy and vacancy synergy. InformaÄnÃ-MateriÃ¡ly, 2020, 2, 1201-1215.	17.3	46
31	Synergistic effect approaching record-high figure of merit in the shear exfoliated n-type Bi2O2-2xTe2xSe. Nano Energy, 2020, 69, 104394.	16.0	45
32	Super Large Sn_{1â€“x}Se Single Crystals with Excellent Thermoelectric Performance. ACS Applied Materials & Interfaces, 2019, 11, 8051-8059.	8.0	43
33	Enhancing Thermoelectric Properties of InTe Nanoprecipitate-Embedded Sn_{1â€“x}In_xTe Microcrystals through Anharmonicity and Strain Engineering. ACS Applied Energy Materials, 2019, 2, 2965-2971.	5.1	43
34	Versatile Vanadium Doping Induces High Thermoelectric Performance in GeTe via Band Alignment and Structural Modulation. Advanced Energy Materials, 2021, 11, 2100544.	19.5	43
35	Synergistic Effect of Band and Nanostructure Engineering on the Boosted Thermoelectric Performance of nâ€Type Mg₃₊_{Î´}(Sb, Bi)₂ Zintls. Advanced Energy Materials, 2022, 12, .	19.5	41
36	Boosting the thermoelectric performance of n-type Bi2S3 by hierarchical structure manipulation and carrier density optimization. Nano Energy, 2021, 87, 106171.	16.0	39

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37	Double perovskite Pr2CoFeO6 thermoelectric oxide: Roles of Sr-doping and Micro/nanostructuring. Chemical Engineering Journal, 2021, 425, 130668.	12.7	39
38	Synergistic Texturing and Bi/Sbâ€Te Antisite Doping Secure High Thermoelectric Performance in Bi_{0.5}Sb_{1.5}Te₃â€Based Thin Films. Advanced Energy Materials, 2021, 11, 2102578.	19.5	35
39	Simultaneously achieving high ZT and mechanical hardness in highly alloyed GeTe with symmetric nanodomains. Chemical Engineering Journal, 2022, 441, 136131.	12.7	35
40	In-Situ Observation of the Continuous Phase Transition in Determining the High Thermoelectric Performance of Polycrystalline Sn_{0.98}Se. Journal of Physical Chemistry Letters, 2019, 10, 6512-6517.	4.6	32
41	Achieving high thermoelectric properties in PEDOT:PSS/SWCNTs composite films by a combination of dimethyl sulfoxide doping and NaBH4 dedoping. Carbon, 2022, 196, 718-726.	10.3	32
42	High Thermoelectric Performance in Sintered Octahedron-Shaped Sn(CdIn)_xTe_{1+2x} Microcrystals. ACS Applied Materials & Interfaces, 2018, 10, 38944-38952.	8.0	31
43	Hierarchical meso/macro-porous TiO2/graphitic carbon nitride nanofibers with enhanced hydrogen evolution. Materials and Design, 2021, 202, 109542.	7.0	31
44	Kinetic condition driven phase and vacancy enhancing thermoelectric performance of low-cost and eco-friendly Cu_{2â^'x}S. Journal of Materials Chemistry C, 2019, 7, 5366-5373.	5.5	29
45	High thermoelectric and mechanical performance in the n-type polycrystalline SnSe incorporated with multi-walled carbon nanotubes. Journal of Materials Science and Technology, 2022, 114, 55-61.	10.7	29
46	Solvothermal synthesis of high-purity porous Cu1.7Se approaching low lattice thermal conductivity. Chemical Engineering Journal, 2019, 375, 121996.	12.7	28
47	Flexible hollow TiO2@CMS/carbon-fiber van der Waals heterostructures for simulated-solar light photocatalysis and photoelectrocatalysis. Journal of Materials Science and Technology, 2022, 98, 143-150.	10.7	27
48	Outstanding thermoelectric properties of solvothermal-synthesized Sn_{1â^'3x}In_xAg_{2x}Te micro-crystals through defect engineering and band tuning. Journal of Materials Chemistry A, 2020, 8, 3978-3987.	10.3	25
49	Tuning wall thickness of TiO2 microtubes for an enhanced photocatalytic activity with thickness-dependent charge separation efficiency. Journal of Colloid and Interface Science, 2020, 579, 463-469.	9.4	25
50	High near-room temperature figure of merit of n-type Bi2GeTe4-based thermoelectric materials via a stepwise optimization of carrier concentration. Chemical Engineering Journal, 2022, 433, 133775.	12.7	24
51	In situ crystal-amorphous compositing inducing ultrahigh thermoelectric performance of p-type Bi0.5Sb1.5Te3 hybrid thin films. Nano Energy, 2020, 78, 105379.	16.0	23
52	Morphology and Texture Engineering Enhancing Thermoelectric Performance of Solvothermal Synthesized Ultralarge SnS Microcrystal. ACS Applied Energy Materials, 2020, 3, 2192-2199.	5.1	23
53	Structural Evolution of Highâ€Performance Mnâ€Alloyed Thermoelectric Materials: A Case Study of SnTe. Small, 2021, 17, e2100525.	10.0	21
54	Se-alloying reducing lattice thermal conductivity of Ge0.95Bi0.05Te. Journal of Materials Science and Technology, 2022, 106, 249-256.	10.7	16

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55	Cheap, Large-Scale, and High-Performance Graphite-Based Flexible Thermoelectric Materials and Devices with Supernormal Industry Feasibility. ACS Applied Materials & Interfaces, 2022, 14, 8066-8075.	8.0	16
56	Achieving ultrahigh power factor in n-type Ag2Se thin films by carrier engineering. Materials Today Energy, 2022, 24, 100933.	4.7	12
57	Environmentally-friendly harvesting TiO2 nanospheres and V2O5 microrods from spent selective catalytic reduction catalysts. Progress in Natural Science: Materials International, 2021, 31, 858-864.	4.4	11
58	Enhanced thermoelectric performance of n-type Nb-doped PbTe by compensating resonant level and inducing atomic disorder. Materials Today Physics, 2022, 24, 100677.	6.0	11
59	Effectively restricting MnSi precipitates for simultaneously enhancing the Seebeck coefficient and electrical conductivity in higher manganese silicide. Journal of Materials Chemistry C, 2019, 7, 7212-7218.	5.5	8
60	Ni doping and rational annealing boost thermoelectric performance of nanostructured double perovskite Pr1.8Sr0.2CoFeO6. Applied Materials Today, 2022, 29, 101580.	4.3	7
61	Polycrystalline NiSe-Alloyed SnSe with Improved Medium-Temperature Thermoelectric Performance. Energy & Fuels, 2022, 36, 5352-5359.	5.1	6
62	Achieving Highâ€Performance Ge_{0.92}Bi_{0.08}Te Thermoelectrics via LaB₆â€Alloyingâ€Induced Band Engineering and Multiâ€Scale Structure Manipulation. Small, 2022, 18, e2105923.	10.0	5
63	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.	2.9	3