

# Lei Miao

## List of Publications by Year in descending order

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104  
papers

3,962  
citations

147566

31  
h-index

138251

58  
g-index

106  
all docs

106  
docs citations

106  
times ranked

3841  
citing authors

#	ARTICLE	IF	CITATIONS
1	High-entropy ceramics: Present status, challenges, and a look forward. <i>Journal of Advanced Ceramics</i> , 2021, 10, 385-441.	8.9	510
2	The emergence of solar thermal utilization: solar-driven steam generation. <i>Journal of Materials Chemistry A</i> , 2017, 5, 7691-7709.	5.2	255
3	Development and Evolution of the System Structure for Highly Efficient Solar Steam Generation from Zero to Three Dimensions. <i>Advanced Functional Materials</i> , 2019, 29, 1903255.	7.8	249
4	A mimetic transpiration system for record high conversion efficiency in solar steam generator under one-sun. <i>Materials Today Energy</i> , 2018, 8, 166-173.	2.5	145
5	A facile process to prepare copper oxide thin films as solar selective absorbers. <i>Applied Surface Science</i> , 2011, 257, 10729-10736.	3.1	107
6	Integrated photothermal aerogels with ultrahigh-performance solar steam generation. <i>Nano Energy</i> , 2020, 74, 104857.	8.2	103
7	Efficient, low-cost solar thermoelectric cogenerators comprising evacuated tubular solar collectors and thermoelectric modules. <i>Applied Energy</i> , 2013, 109, 51-59.	5.1	98
8	Solution-Processed VO <sub>2</sub> -SiO <sub>2</sub> Composite Films with Simultaneously Enhanced Luminous Transmittance, Solar Modulation Ability and Anti-Oxidation property. <i>Scientific Reports</i> , 2014, 4, 7000.	1.6	90
9	Extremely high water-production created by a nanoink-stained PVA evaporator with embossment structure. <i>Nano Energy</i> , 2019, 55, 368-376.	8.2	86
10	Flame-treated and fast-assembled foam system for direct solar steam generation and non-plugging high salinity desalination with self-cleaning effect. <i>Applied Energy</i> , 2019, 241, 652-659.	5.1	85
11	High thermoelectric performance of Nb-doped SrTiO <sub>3</sub> bulk materials with different doping levels. <i>Journal of Materials Chemistry C</i> , 2015, 3, 11406-11411.	2.7	84
12	A novel glass-fiber-aided cold-press method for fabrication of n-type Ag <sub>2</sub> Te nanowires thermoelectric film on flexible copy-paper substrate. <i>Journal of Materials Chemistry A</i> , 2017, 5, 24740-24748.	5.2	73
13	Morphology Control of Ag Polyhedron Nanoparticles for Cost-Effective and Fast Solar Steam Generation. <i>Solar Rrl</i> , 2017, 1, 1600023.	3.1	72
14	A robust starch-polyacrylamide hydrogel with scavenging energy harvesting capacity for efficient solar thermoelectricity-freshwater cogeneration. <i>Energy and Environmental Science</i> , 2022, 15, 3388-3399.	15.6	63
15	One-step hydrothermal synthesis of V <sub>1-x</sub> W <sub>x</sub> O <sub>2</sub> (M/R) nanorods with superior doping efficiency and thermochromic properties. <i>Journal of Materials Chemistry A</i> , 2015, 3, 3726-3738.	5.2	61
16	Extraordinary thermoelectric performance in MgAgSb alloy with ultralow thermal conductivity. <i>Nano Energy</i> , 2019, 59, 311-320.	8.2	59
17	Position-aware deep multi-task learning for drug-drug interaction extraction. <i>Artificial Intelligence in Medicine</i> , 2018, 87, 1-8.	3.8	58
18	Dynamic Ag <sup>+</sup> -intercalation with AgSnSe <sub>2</sub> nano-precipitates in Cl-doped polycrystalline SnSe <sub>2</sub> toward ultra-high thermoelectric performance. <i>Journal of Materials Chemistry A</i> , 2019, 7, 9761-9772.	5.2	50

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19	Energy Matching for Boosting Water Evaporation in Direct Solar Steam Generation. <i>Solar Rrl</i> , 2020, 4, 2000341.	3.1	50
20	W-doped anatase TiO <sub>2</sub> transparent conductive oxide films: Theory and experiment. <i>Journal of Applied Physics</i> , 2010, 107, .	1.1	49
21	A Novel Ink- <i>Stained Paper for Solar Heavy Metal Treatment and Desalination. Solar Rrl</i> , 2018, 2, 1800073.	3.1	49
22	Strategies for breaking theoretical evaporation limitation in direct solar steam generation. <i>Solar Energy Materials and Solar Cells</i> , 2021, 220, 110842.	3.0	47
23	Broadening the temperature range for high thermoelectric performance of bulk polycrystalline strontium titanate by controlling the electronic transport properties. <i>Journal of Materials Chemistry C</i> , 2018, 6, 7594-7603.	2.7	46
24	Thermoelectric Flexible Silver Selenide Films: Compositional and Length Optimization. <i>IScience</i> , 2020, 23, 100753.	1.9	42
25	Synergistic Effect of Band and Nanostructure Engineering on the Boosted Thermoelectric Performance of n-Type Mg <sub>3+<i>i</i></sub> (Sb, Bi) <sub>2</sub> Zintl. <i>Advanced Energy Materials</i> , 2022, 12, .	10.2	41
26	First-principles calculations and high thermoelectric performance of La-Nb doped SrTiO <sub>3</sub> ceramics. <i>Journal of Materials Chemistry A</i> , 2019, 7, 236-247.	5.2	40
27	Shape-controlled synthesis and influence of W doping and oxygen nonstoichiometry on the phase transition of VO <sub>2</sub> . <i>Scientific Reports</i> , 2015, 5, 14087.	1.6	39
28	Synthesis of hollow copper sulfide nanocubes with low emissivity for highly efficient solar steam generation. <i>Solar Energy Materials and Solar Cells</i> , 2020, 210, 110484.	3.0	39
29	Effects of environmental factors on the conversion efficiency of solar thermoelectric co-generators comprising parabola trough collectors and thermoelectric modules without evacuated tubular collector. <i>Energy Conversion and Management</i> , 2014, 86, 944-951.	4.4	36
30	A Facile Surfactant-Assisted Reflux Method for the Synthesis of Single-Crystalline Sb <sub>2</sub> Te <sub>3</sub> Nanostructures with Enhanced Thermoelectric Performance. <i>ACS Applied Materials &amp; Interfaces</i> , 2015, 7, 14263-14271.	4.0	36
31	Enhanced power factor in flexible reduced graphene oxide/nanowires hybrid films for thermoelectrics. <i>RSC Advances</i> , 2016, 6, 31580-31587.	1.7	35
32	Highly efficient and long-term stable solar-driven water purification through a rechargeable hydrogel evaporator. <i>Desalination</i> , 2022, 537, 115872.	4.0	33
33	Electronic <i>Bridge</i> -Construction via Ag Intercalation to Diminish Catalytic Anisotropy for 2D Tin Diselenide Cathode Catalyst in Lithium-Oxygen Batteries. <i>Advanced Energy Materials</i> , 2022, 12, .	10.2	33
34	A facile process to prepare one dimension VO <sub>2</sub> nanostructures with superior metal-semiconductor transition. <i>CrystEngComm</i> , 2013, 15, 1095-1106.	1.3	32
35	Free-Standing Reduced Graphene Oxide Paper with High Electrical Conductivity. <i>Journal of Electronic Materials</i> , 2016, 45, 1290-1295.	1.0	32
36	Substantial thermoelectric enhancement achieved by manipulating the band structure and dislocations in Ag and La co-doped SnTe. <i>Journal of Advanced Ceramics</i> , 2021, 10, 860-870.	8.9	32

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37	Reduced Red Mud as the Solar Absorber for Solar-Driven Water Evaporation and Vaporâ€“Electricity Generation. ACS Applied Materials & Interfaces, 2021, 13, 30556-30564.	4.0	32
38	Sn vacancy engineering for enhancing the thermoelectric performance of two-dimensional SnS. Journal of Materials Chemistry C, 2019, 7, 3351-3359.	2.7	31
39	Realizing High Thermoelectric Performance at Ambient Temperature by Ternary Alloying in Polycrystalline Si <sub>1-x-y</sub> GexSny Thin Films with Boron Ion Implantation. Scientific Reports, 2019, 9, 14342.	1.6	30
40	Low-cost and fast synthesis of nanoporous silica cryogels for thermal insulation applications. Science and Technology of Advanced Materials, 2012, 13, 035003.	2.8	29
41	Fluoro-benzoselenadiazole-based low band gap polymers for high efficiency organic solar cells. Polymer Chemistry, 2014, 5, 330-334.	1.9	28
42	The dispersion of Au nanorods decorated on graphene oxide nanosheets for solar steam generation. Sustainable Materials and Technologies, 2019, 19, e00090.	1.7	28
43	Review on Wearable Thermoelectric Generators: From Devices to Applications. Energies, 2022, 15, 3375.	1.6	28
44	Low-temperature-poling awakened high dielectric breakdown strength and outstanding improvement of discharge energy density of (Pb,La)(Zr,Sn,Ti)O <sub>3</sub> relaxor thin film. Nano Energy, 2020, 77, 105132.	8.2	27
45	Realizing a High $ZT$ of 1.6 in N-Type Mg <sub>3</sub> Sb <sub>2</sub> -Based Zintl Compounds through Mn and Se Codoping. ACS Applied Materials & Interfaces, 2020, 12, 21799-21807.	4.0	26
46	Bottom-up assembly to Ag nanoparticles embedded Nb-doped TiO <sub>2</sub> nanobulks with improved n-type thermoelectric properties. Journal of Materials Chemistry, 2012, 22, 14180.	6.7	24
47	Co <sub>3</sub> O <sub>4</sub> nanoforest/Ni foam as the interface heating sheet for the efficient solar-driven water evaporation under one sun. Sustainable Materials and Technologies, 2019, 20, e00106.	1.7	24
48	Multifunctional Hydrothermalâ€“Carbonized Sugarcane for Highly Efficient Direct Solar Steam Generation. Solar Rrl, 2021, 5, 2000782.	3.1	23
49	Solâ€“gel template synthesis and characterization of VO <sub>2</sub> nanotube arrays. Journal of Sol-Gel Science and Technology, 2012, 63, 103-107.	1.1	22
50	A hybrid hydrogel with protonated g-C <sub>3</sub> N <sub>4</sub> and graphene oxide as an efficient absorber for solar steam evaporation. Sustainable Materials and Technologies, 2019, 20, e00095.	1.7	22
51	Realizing tremendous electrical transport properties of polycrystalline SnSe <sub>2</sub> by Cl-doped and anisotropy. Ceramics International, 2019, 45, 82-89.	2.3	22
52	Boosting High Thermoelectric Performance of Ni-Doped Cu <sub>1.9</sub> S by Significantly Reducing Thermal Conductivity. ACS Applied Materials & Interfaces, 2020, 12, 8385-8391.	4.0	22
53	Constructed Ge Quantum Dots and Sn Precipitate SiGeSn Hybrid Film with High Thermoelectric Performance at Low Temperature Region. Advanced Energy Materials, 2022, 12, .	10.2	22
54	Optimized Electronic Bands and Ultralow Lattice Thermal Conductivity in Ag and Y Codoped SnTe. ACS Applied Materials & Interfaces, 2021, 13, 32876-32885.	4.0	21

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55	Realizing high thermoelectric performance in Te nanocomposite through Sb <sub>2</sub> Te <sub>3</sub> incorporation. CrystEngComm, 2018, 20, 7729-7738.	1.3	20
56	Synergistically optimizing the thermoelectric properties of polycrystalline Ag <sub>8</sub> SnSe <sub>6</sub> by introducing additional Sn. CrystEngComm, 2020, 22, 248-256.	1.3	19
57	Enhancement of Thermoelectric Performance of Layered SnSe <sub>2</sub> by Synergistic Modulation of Carrier Concentration and Suppression of Lattice Thermal Conductivity. ACS Applied Energy Materials, 2019, 2, 8481-8490.	2.5	18
58	Enhanced Visible Photocatalytic Hydrogen Evolution of KN-Based Semiconducting Ferroelectrics via Band-Gap Engineering and High-Field Poling. ACS Applied Materials & Interfaces, 2022, 14, 8916-8930.	4.0	18
59	Visible-light photocatalytic hydrogen production in a narrow-bandgap semiconducting La/Ni-modified KNbO <sub>3</sub> ferroelectric and further enhancement via high-field poling. Journal of Materials Chemistry A, 2022, 10, 7238-7250.	5.2	18
60	Cost effective synthesis of p-type Zn-doped MgAgSb by planetary ball-milling with enhanced thermoelectric properties. RSC Advances, 2018, 8, 35353-35359.	1.7	17
61	Decoration of Bi <sub>2</sub> Se <sub>3</sub> nanosheets with a thin Bi <sub>2</sub> SeO <sub>2</sub> layer for visible-light-driven overall water splitting. International Journal of Hydrogen Energy, 2018, 43, 10950-10958.	3.8	17
62	Bi <sub>2</sub> O <sub>3</sub> decorated TiO <sub>2</sub> nanotube confined Pt nanoparticles with enhanced activity for catalytic combustion of ethylene. Journal of Materials Science, 2019, 54, 4637-4646.	1.7	17
63	Polypyrrole-Reinforced N-Doping Graphene Foam for Efficient Solar Purification of Wastewater. Solar Rrl, 2021, 5, 2100210.	3.1	17
64	The film thickness dependent thermal stability of Al <sub>2</sub> O <sub>3</sub> :Ag thin films as high-temperature solar selective absorbers. Journal of Nanoparticle Research, 2012, 14, 1.	0.8	16
65	Depressed haze and enhanced solar modulation capability for VO <sub>2</sub> -based composite films with distinct size effects. RSC Advances, 2016, 6, 90813-90823.	1.7	16
66	Realizing high thermoelectric performance in p-type Si <sub>1-x</sub> Ge <sub>x</sub> Sny thin films at ambient temperature by Sn modulation doping. Applied Physics Letters, 2020, 117, .	1.5	16
67	Self-Cleaning Integrative Aerogel for Stable Solar-Assisted Desalination. Global Challenges, 2021, 5, 2000063.	1.8	16
68	Wearable Thermoelectric Cooler Based on a Two-Layer Hydrogel/Nickel Foam Heatsink with Two-Axis Flexibility. ACS Applied Materials & Interfaces, 2022, 14, 15317-15323.	4.0	16
69	Simultaneous Realization of Flexibility and Ultrahigh Normalized Power Density in a Heatsink-Free Thermoelectric Generator via Fine Thermal Regulation. ACS Applied Materials & Interfaces, 2022, 14, 1045-1055.	4.0	15
70	Achieving Ultrahigh Photocurrent Density of Mg/Mn-Modified KNbO <sub>3</sub> Ferroelectric Semiconductors by Bandgap Engineering and Polarization Maintenance. Chemistry of Materials, 2022, 34, 4274-4285.	3.2	15
71	Power factor enhancement via simultaneous improvement of electrical conductivity and Seebeck coefficient in tellurium nanowires/reduced graphene oxide flexible thermoelectric films. Synthetic Metals, 2015, 210, 342-351.	2.1	14
72	Reinforcement of power factor in N-type multiphase thin film of Si <sub>1-x</sub> Ge <sub>x</sub> Sny by mitigating the opposing behavior of Seebeck coefficient and electrical conductivity. Applied Physics Letters, 2021, 119, .	1.5	14

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73	Enhanced activity for catalytic combustion of ethylene by the Pt nanoparticles confined in TiO <sub>2</sub> nanotube with surface oxygen vacancy. <i>Ceramics International</i> , 2022, 48, 3933-3940.	2.3	14
74	Novel PEPA-functionalized graphene oxide for fire safety enhancement of polypropylene. <i>Science and Technology of Advanced Materials</i> , 2015, 16, 025006.	2.8	13
75	The synergistic action between anhydride grafted carbon fiber and intumescent flame retardant enhances flame retardancy and mechanical properties of polypropylene composites. <i>Science and Technology of Advanced Materials</i> , 2018, 19, 718-731.	2.8	13
76	Bifunctional polypyrrole-based conductive paper towards simultaneous efficient solar-driven water evaporation and electrochemical energy storage. <i>Nanoscale</i> , 2022, 14, 6949-6958.	2.8	13
77	Strategy of Extra Zr Doping on the Enhancement of Thermoelectric Performance for TiZr <sub>1-x</sub> NiSn Synthesized by a Modified Solid-State Reaction. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 48801-48809.	4.0	12
78	Ultra-low thermal conductivity in B <sub>2</sub> O <sub>3</sub> composited SiGe bulk with enhanced thermoelectric performance at medium temperature region. <i>Journal of Materials Chemistry A</i> , 2022, 10, 4120-4130.	5.2	12
79	Enhancing the thermoelectric performance of Ag <sub>2</sub> Se by non-stoichiometric defects. <i>Applied Physics Letters</i> , 2022, 120, .	1.5	12
80	Improving the Thermoelectric Properties of Polyaniline by Introducing Poly(3,4-ethylenedioxythiophene). <i>Journal of Electronic Materials</i> , 2016, 45, 1813-1820.	1.0	11
81	Enhanced thermoelectric properties of p-type polycrystalline SnSe by regulating the anisotropic crystal growth and Sn vacancy. <i>Chinese Physics B</i> , 2018, 27, 047211.	0.7	11
82	Versatile PVA/CS/CuO aerogel with superior hydrophilic and mechanical properties towards efficient solar steam generation. <i>Nano Select</i> , 2021, 2, 2380-2389.	1.9	11
83	Microwave dielectric properties of Bi(Sc <sub>1/3</sub> Mo <sub>2/3</sub> )O <sub>4</sub> ceramics for LTCC applications. <i>Journal of Materials Science: Materials in Electronics</i> , 2018, 29, 1817-1822.	1.1	10
84	Carrier and microstructure tuning for improving the thermoelectric properties of Ag <sub>8</sub> SnSe <sub>6</sub> via introducing SnBr <sub>2</sub> . <i>Journal of Advanced Ceramics</i> , 2022, 11, 1144-1152.	8.9	10
85	Improved Thermoelectric Performance in Flexible Tellurium Nanowires/Reduced Graphene Oxide Sandwich Structure Hybrid Films. <i>Journal of Electronic Materials</i> , 2017, 46, 3049-3056.	1.0	9
86	Characterisation of the temperature-dependent M1 to R phase transition in W-doped VO <sub>2</sub> nanorod aggregates by Rietveld refinement and theoretical modelling. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 7984-7994.	1.3	9
87	Silicon-based low-dimensional materials for thermal conductivity suppression: recent advances and new strategies to high thermoelectric efficiency. <i>Japanese Journal of Applied Physics</i> , 2021, 60, SA0803.	0.8	9
88	Low-Temperature, Solution-Based, Scalable Synthesis of Sb <sub>2</sub> Te <sub>3</sub> Nanoparticles with an Enhanced Power Factor. <i>Journal of Electronic Materials</i> , 2014, 43, 2165-2173.	1.0	8
89	Highly Suppressed Thermal Conductivity in Diamond-like Cu <sub>2</sub> SnS <sub>3</sub> by Dense Dislocation. <i>ACS Applied Energy Materials</i> , 2021, 4, 8728-8733.	2.5	8
90	No external load measurement strategy for micro thermoelectric generator based on high-performance Si <sub>1-x</sub> GexSny film. <i>Journal of Materiomics</i> , 2021, 7, 665-671.	2.8	7

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91	Solvothermal synthesis of wire-like $\text{Sn}_x\text{Sb}_2\text{Te}_{3+x}$ with an enhanced thermoelectric performance. Dalton Transactions, 2016, 45, 7483-7491.	1.6	6
92	Influence of trace lithium addition on the structure and properties of $\text{K}_{0.5}\text{Na}_{0.5}\text{NbO}_3$ -based single crystals. Journal of Materials Science: Materials in Electronics, 2020, 31, 4857-4866.	1.1	6
93	Synthesis and optical property of zinc aluminate spinel cryogels. Journal of Asian Ceramic Societies, 2016, 4, 185-190.	1.0	5
94	Improved Thermoelectric Performance Achieved by Regulating Heterogeneous Phase in Half-Heusler $\text{TiNiSn}$ -Based Materials. Journal of Electronic Materials, 2018, 47, 3248-3253.	1.0	5
95	Improved thermoelectric property of B-doped $\text{Si}/\text{Ge}$ multilayered quantum dot films prepared by RF magnetron sputtering. Japanese Journal of Applied Physics, 2018, 57, 01AF03.	0.8	5
96	Manipulating the Solubility of $\text{SnSe}$ in $\text{SnTe}$ by Br Doping for Improving the Thermoelectric Performance. ACS Applied Energy Materials, 2021, 4, 13027-13035.	2.5	5
97	High Thermoelectric Performance Achieved in Sb-Doped $\text{GeTe}$ by Manipulating Carrier Concentration and Nanoscale Twin Grains. Materials, 2022, 15, 406.	1.3	5
98	Sintering pressure as a "scalpel" to enhance the thermoelectric performance of $\text{MgAgSb}$ . Journal of Materials Chemistry C, 2022, 10, 3360-3367.	2.7	5
99	Broadband Near Ultraviolet Random Lasing in $\text{ZnO}$ 3-D Nanowalls. Journal of Nanoscience and Nanotechnology, 2011, 11, 9326-9332.	0.9	4
100	Titania Embedded with Nanostructured Sodium Titanate: Reduced Thermal Conductivity for Thermoelectric Application. Journal of Electronic Materials, 2013, 42, 1680-1687.	1.0	3
101	Thermoelectric enhancement in triple-doped strontium titanate with multi-scale microstructure*. Chinese Physics B, 2021, 30, 097204.	0.7	2
102	Microstructure and Optical Properties of $\text{Sm}^{3+}$ Doped $\text{TiO}_2$ Thin Films by Oblique Angle Deposition. Integrated Ferroelectrics, 2011, 129, 201-207.	0.3	0
103	Synthesis of Cation-Intercalated Titanate Nanobelts. Journal of Nanoscience and Nanotechnology, 2011, 11, 9267-9273.	0.9	0
104	Photoluminescence and cathodoluminescence properties of $\text{Li}^{+}$ doped $\text{Gd}_{1.88}\text{Eu}_{0.12}\text{O}_3$ . Journal of the Ceramic Society of Japan, 2015, 123, 989-994.	0.5	0