Xianglei Liu

List of Publications by Year in Descending Order

70 papers	1,551 citations	24 h-index	37 g-index
76 ext. papers	2,103 ext. citations	6 avg, IF	5.49 L-index

#	Paper	IF	Citations
70	Artificial mitochondrion for fast latent heat storage: Experimental study and lattice Boltzmann simulation. *Energy*, **2022**, 245, 123296	7.9	2
69	Loofah-derived eco-friendly SiC ceramics for high-performance sunlight capture, thermal transport, and energy storage. *Energy Storage Materials*, **2022**, 45, 786-795	19.4	4
68	Synergetic enhancement of heat storage density and heat transport ability of phase change materials inlaid in 3D hierarchical ceramics. *Applied Energy*, **2022**, 306, 117995	10.7	8
67	Pore-Scaled investigation on dynamic carbonation mechanism of calcium oxide particles. *Chemical Engineering Science*, **2022**, 248, 117212	4.4	1
66	Inverted perovskite/silicon V-shaped tandem solar cells with 27.6% efficiency via self-assembled monolayer-modified nickel oxide layer. *Journal of Materials Chemistry A*, **2022**, 10, 7251-7262	13	4
65	Bamboo derived SiC ceramics-phase change composites for efficient, rapid, and compact solar thermal energy storage. *Solar Energy Materials and Solar Cells*, **2022**, 240, 111726	6.4	4
64	Fast and stable solar/thermal energy storage via gradient SiC foam-based phase change composite. *International Journal of Heat and Mass Transfer*, **2022**, 194, 123012	4.9	0
63	Experimental and numerical investigations of solar charging performances of 3D porous skeleton based latent heat storage devices. *Applied Energy*, **2022**, 320, 119297	10.7	0
62	Direct solar thermochemical CO2 splitting based on Ca- and Al- doped SmMnO3 perovskites: Ultrahigh CO yield within small temperature swing. *Renewable Energy*, **2022**, 194, 482-494	8.1	0
61	Highly efficient solar-driven CO2-to-fuel conversion assisted by CH4 over NiCo-ZIF derived catalysts. *Fuel*, **2021**, 310, 122441	7.1	2
60	Data-driven modeling of geometry-adaptive steady heat conduction based on convolutional neural networks. *Case Studies in Thermal Engineering*, **2021**, 28, 101651	5.6	4
59	Active control for enhancing vortex induced vibration of a circular cylinder based on deep reinforcement learning. *Physics of Fluids*, **2021**, 33, 103604	4.4	8
58	The influence of pore size distribution on thermal conductivity, permeability, and phase change behavior of hierarchical porous materials. *Science China Technological Sciences*, **2021**, 64, 2485	3.5	1
57	Bionic topology optimization of fins for rapid latent heat thermal energy storage. *Applied Thermal Engineering*, **2021**, 194, 117104	5.8	16
56	Granular porous calcium carbonate particles for scalable and high-performance solar-driven thermochemical heat storage. *Science China Technological Sciences*, **2021**, 64, 2142	3.5	2
55	High-performance three-body near-field thermophotovoltaic energy conversion. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2021**, 259, 107411	2.1	2
54	Decomposition kinetics of Al- and Fe-doped calcium carbonate particles with improved solar absorbance and cycle stability. *Chemical Engineering Journal*, **2021**, 406, 126282	14.7	16

53	Solar-Enhanced CO2 Conversion with CH4 over Synergetic NiCo Alloy Catalysts with Light-to-Fuel Efficiency of 33.8%. *Solar Rrl*, **2021**, 5, 2170085	7.1	1
52	High thermal conductivity and high energy density compatible latent heat thermal energy storage enabled by porous AlN ceramics composites. *International Journal of Heat and Mass Transfer*, **2021**, 175, 121405	4.9	12
51	Ca- and Ga-Doped LaMnO3 for Solar Thermochemical CO2 Splitting with High Fuel Yield and Cycle Stability. *ACS Applied Energy Materials*, **2021**, 4, 9000-9012	6.1	3
50	Bifunctional biomorphic SiC ceramics embedded molten salts for ultrafast thermal and solar energy storage. *Materials Today Energy*, **2021**, 21, 100764	7	5
49	Nacre-like ceramics-based phase change composites for concurrent efficient solar-to-thermal conversion and rapid energy storage. *Solar Energy Materials and Solar Cells*, **2021**, 230, 111240	6.4	6
48	Bionic hierarchical porous aluminum nitride ceramic composite phase change material with excellent heat transfer and storage performance. *Composites Communications*, **2021**, 27, 100892	6.7	8
47	Thermochemical heat storage performances of fluidized black CaCO3 pellets under direct concentrated solar irradiation. *Renewable Energy*, **2021**, 178, 1353-1369	8.1	7
46	A novel composite phase change material for medium temperature thermal energy storage manufactured with a scalable continuous hot-melt extrusion method. *Applied Energy*, **2021**, 303, 117591	10.7	3
45	Sr-doped SmMnO3 perovskites for high-performance near-isothermal solar thermochemical CO2-to-fuel conversion. *Sustainable Energy and Fuels*, **2021**, 5, 4295-4310	5.8	3
44	A 130 kWe solar simulator with tunable ultra-high flux and characterization using direct multiple lamps mapping. *Applied Energy*, **2020**, 270, 115165	10.7	13
43	Dark calcium carbonate particles for simultaneous full-spectrum solar thermal conversion and large-capacity thermochemical energy storage. *Solar Energy Materials and Solar Cells*, **2020**, 207, 110364	6.4	35
42	High-performance infrared thermal radiation suppression metamaterials enabling inhibited infrared emittance and decreased temperature simultaneously. *International Journal of Heat and Mass Transfer*, **2020**, 161, 120318	4.9	9
41	Thermal and Thermochemical Energy Conversion and Storage. *ACS Symposium Series*, **2020**, 257-301	0.4	
40	Calcium-based composites for direct solar-thermal conversion and thermochemical energy storage. *Chemical Engineering Journal*, **2020**, 382, 122815	14.7	40
39	Modified Ca-Looping materials for directly capturing solar energy and high-temperature storage. *Energy Storage Materials*, **2020**, 25, 836-845	19.4	30
38	Ultrahigh thermal rectification based on near-field thermal radiation between dissimilar nanoparticles. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2019**, 234, 1-9	2.1	16
37	Carbonate salt based composite phase change materials for medium and high temperature thermal energy storage: A microstructural study. *Solar Energy Materials and Solar Cells*, **2019**, 196, 25-35	6.4	28
36	Full-spectrum solar energy allocation for efficient space-based photovoltaic□thermoelectric energy conversion. *Journal of Photonics for Energy*, **2019**, 9, 1	1.2	6

35	Near-Field Thermal Radiation of Nanopatterned Black Phosphorene Mediated by Topological Transitions of Phosphorene Plasmons. *Nanoscale and Microscale Thermophysical Engineering*, **2019**, 23, 188-199	3.7	16
34	Effects of near-field photon tunneling on the performance of photon-enhanced thermionic emission energy conversion. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2019**, 222-223, 223-228	2.1	8
33	Diatomite-based porous ceramics with high apparent porosity: Pore structure modification using calcium carbonate. *Ceramics International*, **2019**, 45, 6085-6092	5.1	18
32	High-performance noncontact thermal diode via asymmetric nanostructures. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2018**, 211, 1-8	2.1	23
31	Super-Planckian thermal radiation enabled by coupled quasi-elliptic 2D black phosphorus plasmons. *Applied Thermal Engineering*, **2018**, 144, 403-410	5.8	26
30	Near-Field Thermal Radiation between Nanostructures of Natural Anisotropic Material. *Physical Review Applied*, **2018**, 10,	4.3	18
29	Graphene-assisted near-field radiative thermal rectifier based on phase transition of vanadium dioxide (VO2). *International Journal of Heat and Mass Transfer*, **2017**, 109, 63-72	4.9	49
28	Pattern-free thermal modulator via thermal radiation between Van der Waals materials. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2017**, 200, 100-107	2.1	40
27	A Computational Simulation of Using Tungsten Gratings in Near-Field Thermophotovoltaic Devices. *Journal of Heat Transfer*, **2017**, 139,	1.8	21
26	Defects-assisted solar absorption of plasmonic nanoshell-based nanofluids. *Solar Energy*, **2017**, 146, 503-510	3.8	27
25	Full-spectrum volumetric solar thermal conversion via photonic nanofluids. *Nanoscale*, **2017**, 9, 14854-14860	7.7	58
24	Silicon metamaterials for infrared applications. *Series in Materials Science and Engineering*, **2017**, 347-372		
23	Tunable Stable Levitation Based on Casimir Interaction between Nanostructures. *Physical Review Applied*, **2016**, 5,	4.3	6
22	High-performance electroluminescent refrigeration enabled by photon tunneling. *Nano Energy*, **2016**, 26, 353-359	17.1	38
21	Super-Planckian thermal radiation enabled by hyperbolic surface phonon polaritons. *Science China Technological Sciences*, **2016**, 59, 1680-1686	3.5	22
20	A Computational Simulation of Using Tungsten Gratings in Near-Field Thermophotovoltaic Devices **2016**,		1
19	Blocking-assisted infrared transmission of subwavelength metallic gratings by graphene. *Journal of Optics (United Kingdom)*, **2015**, 17, 035004	1.7	24
18	Near-field radiation between graphene-covered carbon nanotube arrays. *AIP Advances*, **2015**, 5, 053501	1.5	14

17	Near-Field Thermal Radiation between Metasurfaces. *ACS Photonics*, **2015**, 2, 1320-1326	6.3	68
16	Enhanced near-field thermal radiation and reduced Casimir stiction between doped-Si gratings. *Physical Review A*, **2015**, 91,	2.6	45
15	Giant enhancement of nanoscale thermal radiation based on hyperbolic graphene plasmons. *Applied Physics Letters*, **2015**, 107, 143114	3.4	54
14	Near-Field Thermal Radiation: Recent Progress and Outlook. *Nanoscale and Microscale Thermophysical Engineering*, **2015**, 19, 98-126	3.7	88
13	Modeling the Optical and Radiative Properties of Vertically Aligned Carbon Nanotubes in the Infrared Region. *Journal of Heat Transfer*, **2015**, 137,	1.8	18
12	Near-field radiative heat transfer with doped-silicon nanostructured metamaterials. *International Journal of Heat and Mass Transfer*, **2014**, 73, 389-398	4.9	96
11	Near-Perfect Photon Tunneling by Hybridizing Graphene Plasmons and Hyperbolic Modes. *ACS Photonics*, **2014**, 1, 785-789	6.3	89
10	Application Conditions of Effective Medium Theory in Near-Field Radiative Heat Transfer Between Multilayered Metamaterials. *Journal of Heat Transfer*, **2014**, 136,	1.8	66
9	Graphene-assisted near-field radiative heat transfer between corrugated polar materials. *Applied Physics Letters*, **2014**, 104, 251911	3.4	72
8	Energy streamlines in near-field radiative heat transfer between hyperbolic metamaterials. *Optics Express*, **2014**, 22 Suppl 4, A1112-27	3.3	25
7	Metal-free low-loss negative refraction in the mid-infrared region. *Applied Physics Letters*, **2013**, 103, 103101	3.4	14
6	Anisotropic optical properties of silicon nanowire arrays based on the effective medium approximation. *International Journal of Thermal Sciences*, **2013**, 65, 62-69	4.1	51
5	Absorption Coefficients of Crystalline Silicon at Wavelengths from 500 nm to 1000 nm. *International Journal of Thermophysics*, **2013**, 34, 213-225	2.1	25
4	Wide-angle near infrared polarizer with extremely high extinction ratio. *Optics Express*, **2013**, 21, 10502-10	3.5	14
3	Wideband Tunable Omnidirectional Infrared Absorbers Based on Doped-Silicon Nanowire Arrays. *Journal of Heat Transfer*, **2013**, 135,	1.8	41
2	Near-field thermal radiation between hyperbolic metamaterials: Graphite and carbon nanotubes. *Applied Physics Letters*, **2013**, 103, 213102	3.4	73
1	Experimental Investigations of Pool Boiling Heat Transfer on Horizontal Plate Sintered with Metallic Fiber Felt. *International Journal of Green Energy*, **2012**, 9, 22-38	3	4