

Xianglei Liu

List of Publications by Year in descending order

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76
papers

2,673
citations

159358

30
h-index

197535

49
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76
all docs

76
docs citations

76
times ranked

1078
citing authors

#	ARTICLE	IF	CITATIONS
1	Near-field radiative heat transfer with doped-silicon nanostructured metamaterials. International Journal of Heat and Mass Transfer, 2014, 73, 389-398.	2.5	126
2	Near-Field Thermal Radiation: Recent Progress and Outlook. Nanoscale and Microscale Thermophysical Engineering, 2015, 19, 98-126.	1.4	116
3	Near-Perfect Photon Tunneling by Hybridizing Graphene Plasmons and Hyperbolic Modes. ACS Photonics, 2014, 1, 785-789.	3.2	106
4	Calcium-based composites for direct solar-thermal conversion and thermochemical energy storage. Chemical Engineering Journal, 2020, 382, 122815.	6.6	100
5	Near-Field Thermal Radiation between Metasurfaces. ACS Photonics, 2015, 2, 1320-1326.	3.2	89
6	Graphene-assisted near-field radiative heat transfer between corrugated polar materials. Applied Physics Letters, 2014, 104, .	1.5	82
7	Application Conditions of Effective Medium Theory in Near-Field Radiative Heat Transfer Between Multilayered Metamaterials. Journal of Heat Transfer, 2014, 136, .	1.2	81
8	Near-field thermal radiation between hyperbolic metamaterials: Graphite and carbon nanotubes. Applied Physics Letters, 2013, 103, .	1.5	80
9	Modified Ca-Looping materials for directly capturing solar energy and high-temperature storage. Energy Storage Materials, 2020, 25, 836-845.	9.5	77
10	Full-spectrum volumetric solar thermal conversion via photonic nanofluids. Nanoscale, 2017, 9, 14854-14860.	2.8	73
11	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.	3.0	70
12	Graphene-assisted near-field radiative thermal rectifier based on phase transition of vanadium dioxide (VO ₂). International Journal of Heat and Mass Transfer, 2017, 109, 63-72.	2.5	69
13	Giant enhancement of nanoscale thermal radiation based on hyperbolic graphene plasmons. Applied Physics Letters, 2015, 107, 143114.	1.5	66
14	Bionic topology optimization of fins for rapid latent heat thermal energy storage. Applied Thermal Engineering, 2021, 194, 117104.	3.0	66
15	Anisotropic optical properties of silicon nanowire arrays based on the effective medium approximation. International Journal of Thermal Sciences, 2013, 65, 62-69.	2.6	59
16	Loofah-derived eco-friendly SiC ceramics for high-performance sunlight capture, thermal transport, and energy storage. Energy Storage Materials, 2022, 45, 786-795.	9.5	56
17	Enhanced near-field thermal radiation and reduced Casimir stiction between doped-Si gratings. Physical Review A, 2015, 91, .	1.0	54
18	Pattern-free thermal modulator via thermal radiation between Van der Waals materials. Journal of Quantitative Spectroscopy and Radiative Transfer, 2017, 200, 100-107.	1.1	53

#	ARTICLE	IF	CITATIONS
19	Decomposition kinetics of Al- and Fe-doped calcium carbonate particles with improved solar absorbance and cycle stability. <i>Chemical Engineering Journal</i> , 2021, 406, 126282.	6.6	50
20	High-performance electroluminescent refrigeration enabled by photon tunneling. <i>Nano Energy</i> , 2016, 26, 353-359.	8.2	49
21	Synergetic enhancement of heat storage density and heat transport ability of phase change materials inlaid in 3D hierarchical ceramics. <i>Applied Energy</i> , 2022, 306, 117995.	5.1	48
22	Carbonate salt based composite phase change materials for medium and high temperature thermal energy storage: A microstructural study. <i>Solar Energy Materials and Solar Cells</i> , 2019, 196, 25-35.	3.0	47
23	High thermal conductivity and high energy density compatible latent heat thermal energy storage enabled by porous AlN ceramics composites. <i>International Journal of Heat and Mass Transfer</i> , 2021, 175, 121405.	2.5	47
24	Wideband Tunable Omnidirectional Infrared Absorbers Based on Doped-Silicon Nanowire Arrays. <i>Journal of Heat Transfer</i> , 2013, 135, .	1.2	46
25	Bionic hierarchical porous aluminum nitride ceramic composite phase change material with excellent heat transfer and storage performance. <i>Composites Communications</i> , 2021, 27, 100892.	3.3	45
26	Super-Planckian thermal radiation enabled by coupled quasi-elliptic 2D black phosphorus plasmons. <i>Applied Thermal Engineering</i> , 2018, 144, 403-410.	3.0	40
27	Bamboo derived SiC ceramics-phase change composites for efficient, rapid, and compact solar thermal energy storage. <i>Solar Energy Materials and Solar Cells</i> , 2022, 240, 111726.	3.0	36
28	Diatomite-based porous ceramics with high apparent porosity: Pore structure modification using calcium carbonate. <i>Ceramics International</i> , 2019, 45, 6085-6092.	2.3	34
29	Thermochemical heat storage performances of fluidized black CaCO ₃ pellets under direct concentrated solar irradiation. <i>Renewable Energy</i> , 2021, 178, 1353-1369.	4.3	33
30	A Computational Simulation of Using Tungsten Gratings in Near-Field Thermophotovoltaic Devices. <i>Journal of Heat Transfer</i> , 2017, 139, .	1.2	32
31	High-performance noncontact thermal diode via asymmetric nanostructures. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2018, 211, 1-8.	1.1	32
32	Absorption Coefficients of Crystalline Silicon at Wavelengths from 500 nm to 1000 nm. <i>International Journal of Thermophysics</i> , 2013, 34, 213-225.	1.0	31
33	Super-Planckian thermal radiation enabled by hyperbolic surface phonon polaritons. <i>Science China Technological Sciences</i> , 2016, 59, 1680-1686.	2.0	31
34	Defects-assisted solar absorption of plasmonic nanoshell-based nanofluids. <i>Solar Energy</i> , 2017, 146, 503-510.	2.9	30
35	Blocking-assisted infrared transmission of subwavelength metallic gratings by graphene. <i>Journal of Optics (United Kingdom)</i> , 2015, 17, 035004.	1.0	29
36	Near-Field Thermal Radiation between Nanostructures of Natural Anisotropic Material. <i>Physical Review Applied</i> , 2018, 10, .	1.5	28

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37	Energy streamlines in near-field radiative heat transfer between hyperbolic metamaterials. <i>Optics Express</i> , 2014, 22, A1112.	1.7	26
38	A 130 kWe solar simulator with tunable ultra-high flux and characterization using direct multiple lamps mapping. <i>Applied Energy</i> , 2020, 270, 115165.	5.1	26
39	High-performance infrared thermal radiation suppression metamaterials enabling inhibited infrared emittance and decreased temperature simultaneously. <i>International Journal of Heat and Mass Transfer</i> , 2020, 161, 120318.	2.5	25
40	Ultrahigh thermal rectification based on near-field thermal radiation between dissimilar nanoparticles. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2019, 234, 1-9.	1.1	24
41	Nacre-like ceramics-based phase change composites for concurrent efficient solar-to-thermal conversion and rapid energy storage. <i>Solar Energy Materials and Solar Cells</i> , 2021, 230, 111240.	3.0	24
42	Inverted perovskite/silicon V-shaped tandem solar cells with 27.6% efficiency <i>via</i> self-assembled monolayer-modified nickel oxide layer. <i>Journal of Materials Chemistry A</i> , 2022, 10, 7251-7262.	5.2	24
43	A novel composite phase change material for medium temperature thermal energy storage manufactured with a scalable continuous hot-melt extrusion method. <i>Applied Energy</i> , 2021, 303, 117591.	5.1	23
44	Ca- and Ga-Doped LaMnO_3 for Solar Thermochemical CO_2 Splitting with High Fuel Yield and Cycle Stability. <i>ACS Applied Energy Materials</i> , 2021, 4, 9000-9012.	2.5	22
45	Near-Field Thermal Radiation of Nanopatterned Black Phosphorene Mediated by Topological Transitions of Phosphorene Plasmons. <i>Nanoscale and Microscale Thermophysical Engineering</i> , 2019, 23, 188-199.	1.4	21
46	Active control for enhancing vortex induced vibration of a circular cylinder based on deep reinforcement learning. <i>Physics of Fluids</i> , 2021, 33, .	1.6	21
47	Wide-angle near infrared polarizer with extremely high extinction ratio. <i>Optics Express</i> , 2013, 21, 10502.	1.7	20
48	Sr-doped SmMnO_3 perovskites for high-performance near-isothermal solar thermochemical CO_2 -to-fuel conversion. <i>Sustainable Energy and Fuels</i> , 2021, 5, 4295-4310.	2.5	20
49	Data-driven modeling of geometry-adaptive steady heat conduction based on convolutional neural networks. <i>Case Studies in Thermal Engineering</i> , 2021, 28, 101651.	2.8	19
50	Artificial mitochondrion for fast latent heat storage: Experimental study and lattice Boltzmann simulation. <i>Energy</i> , 2022, 245, 123296.	4.5	19
51	Fast and stable solar/thermal energy storage via gradient SiC foam-based phase change composite. <i>International Journal of Heat and Mass Transfer</i> , 2022, 194, 123012.	2.5	19
52	Modeling the Optical and Radiative Properties of Vertically Aligned Carbon Nanotubes in the Infrared Region. <i>Journal of Heat Transfer</i> , 2015, 137, .	1.2	18
53	A highly efficient solar-driven CO_2 reforming of methane on Ni/MgAlO-LDH loaded Ni foam reactors with heat recovery: Experimental measurements and numerical simulations. <i>Chemical Engineering Journal</i> , 2022, 446, 137437.	6.6	18
54	Granular porous calcium carbonate particles for scalable and high-performance solar-driven thermochemical heat storage. <i>Science China Technological Sciences</i> , 2021, 64, 2142-2152.	2.0	17

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55	Near-field radiation between graphene-covered carbon nanotube arrays. <i>AIP Advances</i> , 2015, 5, 053501.	0.6	16
56	Metal-free low-loss negative refraction in the mid-infrared region. <i>Applied Physics Letters</i> , 2013, 103, 103101.	1.5	15
57	Effects of near-field photon tunneling on the performance of photon-enhanced thermionic emission energy conversion. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2019, 222-223, 223-228.	1.1	15
58	The influence of pore size distribution on thermal conductivity, permeability, and phase change behavior of hierarchical porous materials. <i>Science China Technological Sciences</i> , 2021, 64, 2485-2494.	2.0	14
59	Direct solar thermochemical CO ₂ splitting based on Ca- and Al- doped SmMnO ₃ perovskites: Ultrahigh CO yield within small temperature swing. <i>Renewable Energy</i> , 2022, 194, 482-494.	4.3	13
60	Artificial "honeycomb-honey" decorated with non-noble plasmonic nanoparticles for superior solar capture and thermal energy storage. <i>Nano Research</i> , 2022, 15, 8065-8075.	5.8	12
61	High-performance three-body near-field thermophotovoltaic energy conversion. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2021, 259, 107411.	1.1	11
62	Bifunctional biomorphic SiC ceramics embedded molten salts for ultrafast thermal and solar energy storage. <i>Materials Today Energy</i> , 2021, 21, 100764.	2.5	10
63	Pore-Scaled investigation on dynamic carbonation mechanism of calcium oxide particles. <i>Chemical Engineering Science</i> , 2022, 248, 117212.	1.9	10
64	Highly efficient solar-driven CO ₂ -to-fuel conversion assisted by CH ₄ over NiCo-ZIF derived catalysts. <i>Fuel</i> , 2022, 310, 122441.	3.4	9
65	Solar-driven calcination study of a calcium-based single particle for thermochemical energy storage. <i>Chemical Engineering Journal</i> , 2022, 450, 138140.	6.6	9
66	Tunable Stable Levitation Based on Casimir Interaction between Nanostructures. <i>Physical Review Applied</i> , 2016, 5, .	1.5	8
67	Experimental Investigations of Pool Boiling Heat Transfer on Horizontal Plate Sintered with Metallic Fiber Felt. <i>International Journal of Green Energy</i> , 2012, 9, 22-38.	2.1	6
68	Full-spectrum solar energy allocation for efficient space-based photovoltaic-thermoelectric energy conversion. <i>Journal of Photonics for Energy</i> , 2019, 9, 1.	0.8	6
69	Blackened calcium-based composite particles and their apparent kinetics features for solar thermochemical energy storage. <i>AIChE Journal</i> , 2022, 68, .	1.8	5
70	Insight into the regulation between crystallinity and oxygen vacancies of BiVO ₄ affecting the photocatalytic oxygen evolution activity. <i>Catalysis Science and Technology</i> , 2022, 12, 4040-4049.	2.1	5
71	Experimental and numerical investigations of solar charging performances of 3D porous skeleton based latent heat storage devices. <i>Applied Energy</i> , 2022, 320, 119297.	5.1	5
72	Solar-Enhanced CO ₂ Conversion with CH ₄ over Synergetic NiCo Alloy Catalysts with Light-Fuel Efficiency of 33.8%. <i>Solar Rrl</i> , 2021, 5, 2170085.	3.1	3

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73	Efficient solar-driven CO ₂ -to-fuel conversion via Ni/MgAlO ₃ @SiO ₂ nanocomposites at low temperature. <i>Fundamental Research</i> , 2024, 4, 131-139.	1.6	2
74	A Computational Simulation of Using Tungsten Gratings in Near-Field Thermophotovoltaic Devices. , 2016, , .		1
75	Thermal and Thermochemical Energy Conversion and Storage. <i>ACS Symposium Series</i> , 2020, , 257-301.	0.5	1
76	Silicon metamaterials for infrared applications. <i>Series in Materials Science and Engineering</i> , 2017, , 347-372.	0.1	0