Tengfei Luo

List of Publications by Year
in descending order

130 papers	6,692 citations	71102 41 h-index	66911 78 g-index
133 all docs	133 docs citations	133 times ranked	6995 citing authors

#	Article	IF	Citations
1	Resonant bonding leads to low lattice thermal conductivity. Nature Communications, 2014, 5, 3525.	12.8	484
2	Anisotropic thermal conductivity in single crystal Î²-gallium oxide. Applied Physics Letters, 2015, 106, .	3.3	361
3	Functionalized Graphene Enables Highly Efficient Solar Thermal Steam Generation. ACS Nano, 2017, 11, 5510-5518.	14.6	330
4	Enhancement of Thermal Energy Transport Across Graphene/Graphite and Polymer Interfaces: A Molecular Dynamics Study. Advanced Functional Materials, 2012, 22, 2495-2502.	14.9	313
5	Intrinsic electron mobility limits in <i>Î²</i>-Ga2O3. Applied Physics Letters, 2016, 109, .	3.3	299
6	Solarâ€"Thermal Water Evaporation: A Review. ACS Energy Letters, 2020, 5, 437-456.	17.4	224
7	Nanoscale heat transfer â€" from computation to experiment. Physical Chemistry Chemical Physics, 2013, 15, 3389.	2.8	218
8	Thermal Transport in Graphene Oxide â€" From Ballistic Extreme to Amorphous Limit. Scientific Reports, 2014, 4, 3909.	3.3	195
9	Polymer Nanofibers with Outstanding Thermal Conductivity and Thermal Stability: Fundamental Linkage between Molecular Characteristics and Macroscopic Thermal Properties. Journal of Physical Chemistry C, 2014, 118, 21148-21159.	3.1	156
10	A Revisit to High Thermoelectric Performance of Single-layer MoS2. Scientific Reports, 2015, 5, 18342.	3.3	154
11	Hydrogenation of Penta-Graphene Leads to Unexpected Large Improvement in Thermal Conductivity. Nano Letters, 2016, 16, 3925-3935.	9.1	142
12	Role of Chain Morphology and Stiffness in Thermal Conductivity of Amorphous Polymers. Journal of Physical Chemistry B, 2016, 120, 803-812.	2.6	137
13	Molecular Bridge Enables Anomalous Enhancement in Thermal Transport across Hardâ€Soft Material Interfaces. Advanced Materials, 2014, 26, 6093-6099.	21.0	129
14	Thermal Conductivity of Wurtzite Zinc-Oxide from First-Principles Lattice Dynamics â€" a Comparative Study with Gallium Nitride. Scientific Reports, 2016, 6, 22504.	3.3	119
15	Multifunctional Solar Waterways: Plasmaâ€Enabled Selfâ€Cleaning Nanoarchitectures for Energyâ€Efficient Desalination. Advanced Energy Materials, 2019, 9, 1901286.	19.5	109
16	Non-equilibrium molecular dynamics study of thermal energy transport in Auâ€"SAMâ€"Au junctions. International Journal of Heat and Mass Transfer, 2010, 53, 1-11.	4.8	98
17	Very low temperature membrane-free desalination by directional solvent extraction. Energy and Environmental Science, 2011, 4, 1672.	30.8	98
18	Crystalline polymer nanofibers with ultra-high strength and thermal conductivity. Nature Communications, 2018, 9, 1664.	12.8	97

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19	Morphology-influenced thermal conductivity of polyethylene single chains and crystalline fibers. Journal of Applied Physics, 2012, 112, .	2.5	95
20	Role of Hydrogen Bonds in Thermal Transport across Hard/Soft Material Interfaces. ACS Applied Materials & Interfaces, 2016, 8, 33326-33334.	8.0	91
21	Molecular dynamics simulation of thermal energy transport in polydimethylsiloxane. Journal of Applied Physics, 2011, 109, .	2.5	87
22	High-Contrast, Reversible Thermal Conductivity Regulation Utilizing the Phase Transition of Polyethylene Nanofibers. ACS Nano, 2013, 7, 7592-7600.	14.6	78
23	Thermal Interface Conductance Between Aluminum and Silicon by Molecular Dynamics Simulations. Journal of Computational and Theoretical Nanoscience, 2015, 12, 168-174.	0.4	78
24	PI1M: A Benchmark Database for Polymer Informatics. Journal of Chemical Information and Modeling, 2020, 60, 4684-4690.	5.4	69
25	The importance of anharmonicity in thermal transport across solid-solid interfaces. Journal of Applied Physics, 2014, 115, .	2.5	68
26	Giant Thermal Rectification from Polyethylene Nanofiber Thermal Diodes. Small, 2015, 11, 4657-4665.	10.0	68
27	Chain length effect on thermal transport in amorphous polymers and a structureâ€“thermal conductivity relation. Physical Chemistry Chemical Physics, 2019, 21, 15523-15530.	2.8	66
28	Thermal Energy Transport across Hardâ€“Soft Interfaces. ACS Energy Letters, 2017, 2, 2283-2292.	17.4	64
29	Experimental observation of high intrinsic thermal conductivity of AlN. Physical Review Materials, 2020, 4, .	2.4	60
30	Chain conformation-dependent thermal conductivity of amorphous polymer blends: the impact of inter- and intra-chain interactions. Physical Chemistry Chemical Physics, 2016, 18, 32146-32154.	2.8	59
31	Ultra-low Thermal Conductivity in Si/Ge Hierarchical Superlattice Nanowire. Scientific Reports, 2015, 5, 16697.	3.3	58
32	Transfer Learning Study of Gas Adsorption in Metalâ€“Organic Frameworks. ACS Applied Materials & Interfaces, 2020, 12, 34041-34048.	8.0	58
33	High In-Plane Thermal Conductivity of Aluminum Nitride Thin Films. ACS Nano, 2021, 15, 9588-9599.	14.6	58
34	Transport Phenomena in Nano/Molecular Confinements. ACS Nano, 2020, 14, 16348-16391.	14.6	55
35	Structural Phase- and Degradation-Dependent Thermal Conductivity of CH₃NH₃PbI₃ Perovskite Thin Films. Journal of Physical Chemistry C, 2016, 120, 6394-6401.	3.1	53
36	Thermal Boundary Conductance Across Heteroepitaxial ZnO/GaN Interfaces: Assessment of the Phonon Gas Model. Nano Letters, 2018, 18, 7469-7477.	9.1	53

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37	Nanostructures Significantly Enhance Thermal Transport across Solid Interfaces. ACS Applied Materials & Interfaces, 2016, 8, 35505-35512.	8.0	50
38	Effect of electric field non-uniformity on droplets coalescence. Physical Chemistry Chemical Physics, 2016, 18, 29786-29796.	2.8	47
39	Experimental observation of localized interfacial phonon modes. Nature Communications, 2021, 12, 6901.	12.8	46
40	Tuning the thermal conductivity of solar cell polymers through side chain engineering. Physical Chemistry Chemical Physics, 2014, 16, 7764-7771.	2.8	44
41	Effects of Defects on the Temperatureâ€Dependent Thermal Conductivity of Suspended Monolayer Molybdenum Disulfide Grown by Chemical Vapor Deposition. Advanced Functional Materials, 2017, 27, 1704357.	14.9	44
42	A deep neural network interatomic potential for studying thermal conductivity of <i>Î²</i> -Ga2O3. Applied Physics Letters, 2020, 117, .	3.3	43
43	Ionic liquid enables highly efficient low temperature desalination by directional solvent extraction. Nature Communications, 2021, 12, 437.	12.8	42
44	Equilibrium Molecular Dynamics Study of Lattice Thermal Conductivity/Conductance of Au-SAM-Au Junctions. Journal of Heat Transfer, 2010, 132, .	2.1	41
45	High-contrast and reversible polymer thermal regulator by structural phase transition. Science Advances, 2019, 5, eaax3777.	10.3	41
46	Thermal conductance across harmonic-matched epitaxial Al-sapphire heterointerfaces. Communications Physics, 2020, 3, .	5.3	41
47	A unified deep neural network potential capable of predicting thermal conductivity of silicon in different phases. Materials Today Physics, 2020, 12, 100181.	6.0	41
48	Magnon and phonon dispersion, lifetime, and thermal conductivity of iron from spin-lattice dynamics simulations. Journal of Applied Physics, 2018, 123, .	2.5	40
49	Pentiptycene-based ladder polymers with configurational free volume for enhanced gas separation performance and physical aging resistance. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	40
50	Evaluating Polymer Representations via Quantifying Structureâ€"Property Relationships. Journal of Chemical Information and Modeling, 2019, 59, 3110-3119.	5.4	39
51	Dual-mode solid-state thermal rectification. Nature Communications, 2020, 11, 4346.	12.8	37
52	Directional solvent for membrane-free water desalinationâ€"A molecular level study. Journal of Applied Physics, 2011, 110, .	2.5	34
53	Spill-SOS: Self-Pumping Siphon-Capillary Oil Recovery. ACS Nano, 2019, 13, 13027-13036.	14.6	34
54	Beyond lotus: Plasma nanostructuring enables efficient energy and water conversion and use. Nano Energy, 2019, 66, 104125.	16.0	34

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55	Molecular dynamics study of thermal transport in GaAs-self-assembly monolayer-GaAs junctions with <i>ab initio</i> characterization of thiol-GaAs bonds. Journal of Applied Physics, 2011, 109, .	2.5	33
56	Ballistic supercavitating nanoparticles driven by single Gaussian beam optical pushing and pulling forces. Nature Communications, 2020, 11, 2404.	12.8	33
57	Plasma-Made Graphene Nanostructures with Molecularly Dispersed F and Na Sites for Solar Desalination of Oil-Contaminated Seawater with Complete In-Water and In-Air Oil Rejection. ACS Applied Materials & Interfaces, 2020, 12, 38512-38521.	8.0	32
58	Thermal Transport in Polymers: A Review. Journal of Heat Transfer, 2021, 143, .	2.1	32
59	Thermal transport across solid-solid interfaces enhanced by pre-interface isotope-phonon scattering. Applied Physics Letters, 2018, 112, .	3.3	29
60	Origin of Hydrophilic Surface Functionalization-Induced Thermal Conductance Enhancement across Solidâ€“Water Interfaces. ACS Applied Materials & Interfaces, 2018, 10, 28159-28165.	8.0	29
61	Exfoliated Graphene Leads to Exceptional Mechanical Properties of Polymer Composite Films. ACS Nano, 2019, 13, 1097-1106.	14.6	29
62	The impact of hydrogenation on the thermal transport of silicene. 2D Materials, 2017, 4, 025002.	4.4	28
63	The role of optical phonons in intermediate layer-mediated thermal transport across solid interfaces. Physical Chemistry Chemical Physics, 2017, 19, 18407-18415.	2.8	28
64	Modeling of a continuous water desalination process using directional solvent extraction. Desalination, 2017, 420, 114-124.	8.2	27
65	Exceptional ion rejection ability of directional solvent for non-membrane desalination. Applied Physics Letters, 2014, 104, 024102.	3.3	26
66	Effect of electron-phonon coupling on thermal transport across metal-nonmetal interface â€”A second look. Europhysics Letters, 2015, 110, 67004.	2.0	26
67	Effects of Electrostatic Interaction and Chirality on the Friction Coefficient of Water Flow Inside Single-Walled Carbon Nanotubes and Boron Nitride Nanotubes. Journal of Physical Chemistry C, 2018, 122, 5131-5140.	3.1	26
68	Role of Molecular Polarity in Thermal Transport of Boron Nitrideâ€“Organic Molecule Composites. ACS Omega, 2018, 3, 12530-12534.	3.5	26
69	Role of Ionization in Thermal Transport of Solid Polyelectrolytes. Journal of Physical Chemistry C, 2019, 123, 12659-12665.	3.1	26
70	Leverage electron properties to predict phonon properties via transfer learning for semiconductors. Science Advances, 2020, 6, .	10.3	26
71	Physics-informed neural networks for solving multiscale mode-resolved phonon Boltzmann transport equation. Materials Today Physics, 2021, 19, 100429.	6.0	25
72	Thermal boundary conductance enhancement using experimentally achievable nanostructured interfaces â€“ analytical study combined with molecular dynamics simulation. Physical Chemistry Chemical Physics, 2016, 18, 16794-16801.	2.8	23

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73	Low-Cost Nanostructures from Nanoparticle-Assisted Large-Scale Lithography Significantly Enhance Thermal Energy Transport across Solid Interfaces. ACS Applied Materials & Interfaces, 2018, 10, 34690-34698.	8.0	23
74	Light-Guided Surface Plasmonic Bubble Movement via Contact Line De-Pinning by In-Situ Deposited Plasmonic Nanoparticle Heating. ACS Applied Materials & Interfaces, 2019, 11, 48525-48532.	8.0	23
75	Physics-informed deep learning for solving phonon Boltzmann transport equation with large temperature non-equilibrium. Npj Computational Materials, 2022, 8, .	8.7	23
76	Bulk-like Intrinsic Phonon Thermal Conductivity of Micrometer-Thick AlN Films. ACS Applied Materials & Interfaces, 2020, 12, 29443-29450.	8.0	22
77	Molecular Fin Effect from Heterogeneous Self-Assembled Monolayer Enhances Thermal Conductance across Hardâ€“Soft Interfaces. ACS Applied Materials & Interfaces, 2017, 9, 33740-33748.	8.0	21
78	Impact of surface and pore characteristics on fatigue life of laser powder bed fusion Tiâ€“6Alâ€“4V alloy described by neural network models. Scientific Reports, 2021, 11, 20424.	3.3	21
79	Exploring High Thermal Conductivity Amorphous Polymers Using Reinforcement Learning. ACS Applied Materials & Interfaces, 2022, 14, 15587-15598.	8.0	21
80	Determining influential descriptors for polymer chain conformation based on empirical force-fields and molecular dynamics simulations. Chemical Physics Letters, 2018, 704, 49-54.	2.6	20
81	Plasmonic Nanobubblesâ€“A Perspective. Journal of Physical Chemistry C, 2021, 125, 25357-25368.	3.1	19
82	Spectral concentration of thermal conductivity in GaNâ€”A first-principles study. Applied Physics Letters, 2018, 112, .	3.3	18
83	Surface Bubble Growth in Plasmonic Nanoparticle Suspension. ACS Applied Materials & Interfaces, 2020, 12, 26680-26687.	8.0	18
84	Effect of light atoms on thermal transport across solidâ€“solid interfaces. Physical Chemistry Chemical Physics, 2019, 21, 17029-17035.	2.8	17
85	Direct Arsenic Removal from Water Using Non-Membrane, Low-Temperature Directional Solvent Extraction. Journal of Chemical & Engineering Data, 2020, 65, 2938-2946.	1.9	17
86	Thermal Conductivity of Polyelectrolytes with Different Counterions. Journal of Physical Chemistry C, 2020, 124, 4483-4488.	3.1	17
87	Long-distance optical pulling of nanoparticle in a low index cavity using a single plane wave. Science Advances, 2020, 6, eaaz3646.	10.3	17
88	Tuning Water Slip Behavior in Nanochannels Using Self-Assembled Monolayers. ACS Applied Materials & Interfaces, 2019, 11, 32481-32488.	8.0	16
89	The effect of the block ratio on the thermal conductivity of amorphous polyethyleneâ€“polypropylene (PEâ€“PP) diblock copolymers. Physical Chemistry Chemical Physics, 2018, 20, 20534-20539.	2.8	15
90	Enhanced thermal transport across the interface between charged graphene and poly(ethylene oxide) by non-covalent functionalization. International Journal of Heat and Mass Transfer, 2022, 183, 122188.	4.8	15

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91	Biocompatible Direct Deposition of Functionalized Nanoparticles Using Shrinking Surface Plasmonic Bubble. Advanced Materials Interfaces, 2020, 7, 2000597.	3.7	14
92	Exergy Analysis of Directional Solvent Extraction Desalination Process. Entropy, 2019, 21, 321.	2.2	13
93	A predictive model for self-, Maxwell-Stefan, and Fick diffusion coefficients of binary supercritical water mixtures. Journal of Molecular Liquids, 2021, 324, 114735.	4.9	13
94	First-principles study of thermoelectric properties of blue phosphorene. Applied Physics Letters, 2018, 113, 063903.	3.3	12
95	On interfacial viscosity in nanochannels. Nanoscale, 2020, 12, 14626-14635.	5.6	12
96	Predicting Diffusion Coefficients of Binary and Ternary Supercritical Water Mixtures via Machine and Transfer Learning with Deep Neural Network. Industrial & Engineering Chemistry Research, 2022, 61, 8542-8550.	3.7	12
97	Optically Driven Gold Nanoparticles Seed Surface Bubble Nucleation in Plasmonic Suspension. Nano Letters, 2021, 21, 5485-5492.	9.1	10
98	High thermal conductivity and thermal boundary conductance of homoepitaxially grown gallium nitride (GaN) thin films. Physical Review Materials, 2021, 5, .	2.4	10
99	Molecular-Level Understanding of Efficient Thermal Transport across the Silicaâ€"Water Interface. Journal of Physical Chemistry C, 2021, 125, 24115-24125.	3.1	10
100	A phonon wave packet study of thermal energy transport across functionalized hard-soft interfaces. Journal of Applied Physics, 2019, 126, .	2.5	9
101	Anisotropically tuning interfacial thermal conductance between graphite and poly(ethylene oxide) by lithium-ion intercalation: A molecular dynamics study. International Journal of Heat and Mass Transfer, 2022, 195, 123134.	4.8	9
102	Thermal Rectification Under Transient Conditions: The Role of Thermal Capacitance and Thermal Conductivity. Journal of Heat Transfer, 2017, 139, .	2.1	8
103	LIS-PRO: A new concept of power generation from low temperature heat using liquid-phase ion-stripping-induced salinity gradient. Energy, 2020, 200, 117593.	8.8	8
104	Ballistic Brownian motion of supercavitating nanoparticles. Physical Review E, 2021, 103, 042104.	2.1	7
105	Solar Energy Conversion: Multifunctional Solar Waterways: Plasmaâ€Enabled Selfâ€Cleaning Nanoarchitectures for Energyâ€Efficient Desalination (Adv. Energy Mater. 30/2019). Advanced Energy Materials, 2019, 9, 1970119.	19.5	6
106	Thermal Conductivity of Pentiptycene-Based Poly(o-hydroxyimide) Copolymers: A Study via Integrated Experiments and Simulations. ACS Applied Polymer Materials, 2021, 3, 2979-2987.	4.4	6
107	Enhanced water evaporation under spatially gradient electric Fields: A molecular dynamics study. Journal of Molecular Liquids, 2022, 360, 119410.	4.9	6
108	Phonon Dephasing Dynamics in MoS₂. Nano Letters, 2021, 21, 1434-1439.	9.1	5

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109	Plasmon Hybridization-Induced Ultra-broadband High Absorption from 0.4 to 1.8 Microns in Titanium Nitride Metastructures. Plasmonics, 2021, 16, 799-809.	3.4	5
110	Thermal conductivity of Bi₂(Se_xTe_{1âˆ’x})₃ alloy films grown by molecular beam epitaxy. APL Materials, 2017, 5, 066101.	5.1	5
111	Thermal Diodes: Giant Thermal Rectification from Polyethylene Nanofiber Thermal Diodes (Small) Tj ETQq1 1 0.784314 rgBT /Overlock 1	10.0	4
112	Graphene petal foams with hierarchical micro- and nano-channels for ultrafast spontaneous and continuous oil recovery. Journal of Materials Chemistry A, 2022, 10, 11651-11658.	10.3	4
113	Tunable Thermal Transport in Polysilsesquioxane (PSQ) Hybrid Crystals. Scientific Reports, 2016, 6, 21452.	3.3	3
114	Molybdenum Carbamate Nanosheets as a New Class of Potential Phase Change Materials. Nano Letters, 2017, 17, 3902-3906.	9.1	3
115	Liquid phase stabilization versus bubble formation at a nanoscale curved interface. Physical Review E, 2018, 97, 033106.	2.1	3
116	Increasing ammonia recovery from high-level ammonium wastewater via adding sodium sulfate to prevent nitrogen generation in the cathode. Environmental Research, 2020, 186, 109521.	7.5	3
117	A Computational Framework for Modelling and Simulating Vibrational Mode Dynamics. Modelling and Simulation in Materials Science and Engineering, 0, , .	2.0	3
118	Molecular understanding of the effect of hydrogen on graphene growth by plasma-enhanced chemical vapor deposition. Physical Chemistry Chemical Physics, 2022, 24, 10297-10304.	2.8	3
119	Effect of side-chain Ï€â€"Ï€ stacking on the thermal conductivity switching in azobenzene polymers: a molecular dynamics simulation study. Physical Chemistry Chemical Physics, 2022, 24, 10272-10279.	2.8	3
120	Structured illumination with thermal imaging (SI-TI): A dynamically reconfigurable metrology for parallelized thermal transport characterization. Applied Physics Reviews, 2022, 9, .	11.3	3
121	Spontaneous Crystallization for Tailoring Polymorphic Nanoscale Nickel with Superior Hardness. Journal of Physical Chemistry C, 2022, 126, 12301-12312.	3.1	3
122	Thermal Transport: Molecular Bridge Enables Anomalous Enhancement in Thermal Transport across Hard-Soft Material Interfaces (Adv. Mater. 35/2014). Advanced Materials, 2014, 26, 6092-6092.	21.0	2
123	Thermal transport in superconducting niobium nitride: A first-principles study. Applied Physics Letters, 2021, 118, 043102.	3.3	2
124	Negative optical force field on supercavitating titanium nitride nanoparticles by a single plane wave. Nanophotonics, 2021, 11, 79-86.	6.0	2
125	Effect of electric field on water free energy in graphene nanochannel. Journal of Applied Physics, 2022, 132, .	2.5	2
126	Phase profile in superposition of Bessel beam modulates local axial optical force on Rayleigh and Mie dielectric spheres. Optik, 2021, 242, 167032.	2.9	1

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127	Nanostructure-enabled significant thermal transport enhancement across solid interfaces. , 2016, , .		0
128	Investigation of thermal transport across solid interfaces with randomly distributed nanostructures. , 2017, , .		0
129	The role of intermediate layers in thermal transport across GaN/SiC interfaces. , 2017, , .		0
130	Controlling the Rotational Barrier of Single Porphyrin Rotors on Surfaces. Journal of Physical Chemistry B, 2020, 124, 953-960.	2.6	0