Renkun Chen

List of Publications by Year
in descending order

95 papers	9,160 citations	81839 39 h-index	48277 88 g-index
96 all docs	96 docs citations	96 times ranked	9532 citing authors

#	Article	IF	Citations
1	21-Component compositionally complex ceramics: Discovery of ultrahigh-entropy weberite and fergusonite phases and a pyrochlore-weberite transition. Journal of Advanced Ceramics, 2022, 11, 641-655.	8.9	24
2	Discovery of a reversible redox-induced order-disorder transition in a 10-component compositionally complex ceramic. Scripta Materialia, 2022, 215, 114699.	2.6	8
3	Short-range order and origin of the low thermal conductivity in compositionally complex rare-earth niobates and tantalates. Acta Materialia, 2022, 235, 118056.	3.8	17
4	Energy Storage in Paraffin: A PDE Backstepping Experiment. IEEE Transactions on Control Systems Technology, 2021, 29, 1490-1502.	3.2	6
5	Boiling with ultralow superheat using confined liquid film. Applied Thermal Engineering, 2021, 184, 116356.	3.0	4
6	Observation of superdiffusive phonon transport in aligned atomic chains. Nature Nanotechnology, 2021, 16, 764-768.	15.6	43
7	Measurement of High-temperature Thermophysical Properties of Bulk and Coatings Using Modulated Photothermal Radiometry. International Journal of Heat and Mass Transfer, 2021, 170, 120989.	2.5	15
8	Single-phase duodenary high-entropy fluorite/pyrochlore oxides with an order-disorder transition. Acta Materialia, 2021, 211, 116858.	3.8	48
9	Improved window energy efficiency with thermal insulating polymer-air multilayer. Applied Thermal Engineering, 2021, 191, 116890.	3.0	8
10	Phonon gas model for thermal conductivity of dense, strongly interacting liquids. Journal of Applied Physics, 2021, 129, .	1.1	21
11	Hollow-Structured Bilayer System for Windowpane Insulation. Journal of Energy Engineering - ASCE, 2021, 147, 06021001.	1.0	0
12	Electrospun liquid crystal elastomer microfiber actuator. Science Robotics, 2021, 6, .	9.9	157
13	Measurement and analysis of thermal conductivity of ceramic particle beds for solar thermal energy storage. Solar Energy Materials and Solar Cells, 2021, 230, 111271.	3.0	29
14	Cool textile. Joule, 2021, 5, 2258-2260.	11.7	7
15	In-situ thermal transport measurement of flowing fluid using modulated photothermal radiometry. International Journal of Heat and Mass Transfer, 2021, 180, 121767.	2.5	6
16	Thermal conductivity modeling of monodispersed microspheres using discrete element method. Journal of Applied Physics, 2021, 130, .	1.1	4
17	Window+: Electrostatic levitation enabled Polymer-Air multilayer (EPAM) structures for highly transparent energy efficient windows. Energy Conversion and Management, 2021, 248, 114803.	4.4	1
18	Suppressing thermal conductivity of nano-grained thermoelectric material using acoustically hard nanoparticles. Journal of Applied Physics, 2021, 130, .	1.1	4

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19	Advanced Materials for Highâ€Temperature Thermal Transport. Advanced Functional Materials, 2020, 30, 1904815.	7.8	63
20	From high-entropy ceramics to compositionally-complex ceramics: A case study of fluorite oxides. Journal of the European Ceramic Society, 2020, 40, 2120-2129.	2.8	160
21	Origin of inhomogeneity in spark plasma sintered bismuth antimony telluride thermoelectric nanocomposites. Nano Research, 2020, 13, 1339-1346.	5.8	4
22	Dual-mode solid-state thermal rectification. Nature Communications, 2020, 11, 4346.	5.8	37
23	Plasmonically Enhanced Thermal Radiation by Means of Surface Phonon Polaritons. Physical Review Applied, 2020, 14, .	1.5	8
24	Sub-nanowatt microfluidic single-cell calorimetry. Nature Communications, 2020, 11, 2982.	5.8	21
25	Emerging Materials and Strategies for Personal Thermal Management. Advanced Energy Materials, 2020, 10, 1903921.	10.2	290
26	Modeling of hydrogen liquefaction using magnetocaloric cycles with permanent magnets. International Journal of Refrigeration, 2020, 119, 238-246.	1.8	10
27	Size disorder as a descriptor for predicting reduced thermal conductivity in medium- and high-entropy pyrochlore oxides. Scripta Materialia, 2020, 181, 76-81.	2.6	173
28	An Adaptive and Wearable Thermal Camouflage Device. Advanced Functional Materials, 2020, 30, 1909788.	7.8	92
29	Transition between thin film boiling and evaporation on nanoporous membranes near the kinetic limit. International Journal of Heat and Mass Transfer, 2020, 154, 119673.	2.5	17
30	The effects of ultra-fine-grained structure and cryogenic temperature on adiabatic shear localization in titanium. Acta Materialia, 2019, 181, 408-422.	3.8	29
31	Osmotic Pumping and Salt Rejection by Polyelectrolyte Hydrogel for Continuous Solar Desalination. Advanced Energy Materials, 2019, 9, 1900552.	10.2	131
32	Infrared emissivity of copper-alloyed spinel black coatings for concentrated solar power systems. Solar Energy Materials and Solar Cells, 2019, 200, 109961.	3.0	18
33	Wearable thermoelectrics for personalized thermoregulation. Science Advances, 2019, 5, eaaw0536.	4.7	299
34	Multi-layer temperature-responsive hydrogel for forward-osmosis desalination with high permeable flux and fast water release. Desalination, 2019, 459, 105-113.	4.0	38
35	Thermoelectrics of Nanowires. Chemical Reviews, 2019, 119, 9260-9302.	23.0	110
36	High-temperature stable refractory nanoneedles with over 99% solar absorptance. APL Materials, 2019, 7, .	2.2	10

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37	Far-field coherent thermal emission from polaritonic resonance in individual anisotropic nanoribbons. Nature Communications, 2019, 10, 1377.	5.8	31
38	Optical properties and thermal stability of Cu spinel oxide nanoparticle solar absorber coatings. Solar Energy Materials and Solar Cells, 2019, 195, 81-88.	3.0	46
39	Elevating low-emissivity film for lower thermal transmittance. Energy and Buildings, 2019, 193, 69-77.	3.1	25
40	High-contrast and reversible polymer thermal regulator by structural phase transition. Science Advances, 2019, 5, eaax3777.	4.7	41
41	Ultrahigh Flux Thin Film Boiling Heat Transfer Through Nanoporous Membranes. Nano Letters, 2018, 18, 3096-3103.	4.5	77
42	Hollow photonic structures of transparent conducting oxide with selective and tunable absorptance. Applied Thermal Engineering, 2018, 145, 416-422.	3.0	4
43	Dendrite Suppression Membranes for Rechargeable Zinc Batteries. ACS Applied Materials & Interfaces, 2018, 10, 38928-38935.	4.0	189
44	Widely tunable thin film boiling heat transfer through nanoporous membranes. Nano Energy, 2018, 54, 297-303.	8.2	28
45	Thermal conductivity degradation and recovery in ion beam damaged tungsten at different temperature. Journal of Nuclear Materials, 2018, 511, 141-147.	1.3	21
46	Role of surfactant on thermoelectric behaviors of organic-inorganic composites. Journal of Applied Physics, 2018, 123, .	1.1	23
47	High Heat Flux Boiling Heat Transfer Through Nanoporous Membranes. , 2018, , .		0
48	HIGH HEAT FLUX PHASE CHANGE HEAT TRANSFER THROUGH NANOPOROUS MEMBRANES. , 2018, , .		0
49	Thermal conductivity reduction of tungsten plasma facing material due to helium plasma irradiation in PISCES using the improved 3-omega method. Journal of Nuclear Materials, 2017, 486, 267-273.	1.3	59
50	Scientific and Technical Challenges in Thermal Transport and Thermoelectric Materials and Devices. ECS Journal of Solid State Science and Technology, 2017, 6, N3058-N3064.	0.9	19
51	Strong size-dependent stress relaxation in electrospun polymer nanofibers. Journal of Applied Physics, 2017, 121, 015103.	1.1	15
52	Unusually High and Anisotropic Thermal Conductivity in Amorphous Silicon Nanostructures. ACS Nano, 2017, 11, 2470-2476.	7.3	51
53	Prefaceâ€"Focus Issue on Thermoelectric Materials & Devices: Phonon Engineering, Advanced Materials and Thermal Transport. ECS Journal of Solid State Science and Technology, 2017, 6, Y3-Y3.	0.9	3
54	Reversible Humidity Sensitive Clothing for Personal Thermoregulation. Scientific Reports, 2017, 7, 44208.	1.6	66

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55	High-Performance Screen-Printed Thermoelectric Films on Fabrics. Scientific Reports, 2017, 7, 7317.	1.6	100
56	Deuterium retention and thermal conductivity in ion-beam displacement-damaged tungsten. Nuclear Materials and Energy, 2017, 12, 164-168.	0.6	17
57	Copper-alloyed spinel black oxides and tandem-structured solar absorbing layers for high-temperature concentrating solar power systems. Solar Energy, 2016, 132, 257-266.	2.9	49
58	Bio-inspired effective and regenerable building cooling using tough hydrogels. Applied Energy, 2016, 168, 332-339.	5.1	44
59	Vertical Si nanowire arrays fabricated by magnetically guided metal-assisted chemical etching. Nanotechnology, 2016, 27, 455302.	1.3	8
60	Thermal transport in amorphous materials: a review. Semiconductor Science and Technology, 2016, 31, 113003.	1.0	112
61	Simultaneous specific heat and thermal conductivity measurement of individual nanostructures. Semiconductor Science and Technology, 2016, 31, 084005.	1.0	8
62	Fluid-like Surface Layer and Its Flow Characteristics in Glassy Nanotubes. Nano Letters, 2016, 16, 7545-7550.	4.5	7
63	Thermal transport in Si and Ge nanostructures in the â€˜confinementâ€™ regime. Nanoscale, 2016, 8, 13155-13167.	2.8	35
64	Black oxide nanoparticles as durable solar absorbing material for high-temperature concentrating solar power system. Solar Energy Materials and Solar Cells, 2015, 134, 417-424.	3.0	68
65	Sub-amorphous Thermal Conductivity in Ultrathin Crystalline Silicon Nanotubes. Nano Letters, 2015, 15, 2605-2611.	4.5	94
66	Uniformly Nanopatterned Graphene Field-Effect Transistors with Enhanced Properties. Nanoscale Research Letters, 2015, 10, 976.	3.1	6
67	Universal solders for direct bonding and packaging of optical devices. Materials Letters, 2015, 152, 232-236.	1.3	5
68	Tandem structured spectrally selective coating layer of copper oxide nanowires combined with cobalt oxide nanoparticles. Nano Energy, 2015, 11, 247-259.	8.2	30
69	Sub-picowatt resolution calorimetry with niobium nitride thin-film thermometer. Review of Scientific Instruments, 2014, 85, 094903.	0.6	8
70	Phononic and Electronic Engineering in Nanowires for Enhanced Thermoelectric Performance. RSC Smart Materials, 2014, , 400-437.	0.1	1
71	Near-surface thermal characterization of plasma facing components using the 3-omega method. Journal of Nuclear Materials, 2014, 455, 56-60.	1.3	31
72	Ultralow Thermal Conductivity of Multilayers with Highly Dissimilar Debye Temperatures. Nano Letters, 2014, 14, 2448-2455.	4.5	77

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73	Structure-induced enhancement of thermal conductivities in electrospun polymer nanofibers. Nanoscale, 2014, 6, 8283-8291.	2.8	78
74	High performance multi-scaled nanostructured spectrally selective coating for concentrating solar power. Nano Energy, 2014, 8, 238-246.	8.2	110
75	Si boride-coated Si nanoparticles with improved thermal oxidation resistance. Nano Energy, 2014, 9, 32-40.	8.2	10
76	Silicide Nanopowders as Low-Cost and High-Performance Thermoelectric Materials. Jom, 2013, 65, 702-708.	0.9	10
77	Phase transformation and thermoelectric properties of bismuth-telluride nanowires. Nanoscale, 2013, 5, 4669.	2.8	63
78	Gate-Modulated Thermoelectric Power Factor of Hole Gas in Geâ€“Si Coreâ€“Shell Nanowires. Nano Letters, 2013, 13, 1196-1202.	4.5	69
79	Probing the limit of one-dimensional heat transfer under extreme bending strain. Physical Review B, 2013, 87, .	1.1	6
80	Sub-picowatt/kelvin resistive thermometry for probing nanoscale thermal transport. Review of Scientific Instruments, 2013, 84, 114901.	0.6	31
81	Thermal transport in phononic crystals: The role of zone folding effect. Journal of Applied Physics, 2012, 111, .	1.1	94
82	Ultra-sensitive thermal conductance measurement of one-dimensional nanostructures enhanced by differential bridge. Review of Scientific Instruments, 2012, 83, 024901.	0.6	100
83	The new limit of heat transfer under extreme strain. , 2012, , .		0
84	Spark erosion: a high production rate method for producing Bi_{0.5}Sb_{1.5}Te₃nanoparticles with enhanced thermoelectric performance. Nanotechnology, 2012, 23, 415604.	1.3	88
85	Thermal Conductivity Measurement of Thin Nanowires. , 2011, , .		0
86	Modeling of Thermal Transport in Phononic Crystals Using Finite Difference Time Domain Method. , 2011, , .		0
87	Critical heat flux of pool boiling on Si nanowire array-coated surfaces. International Journal of Heat and Mass Transfer, 2011, 54, 5359-5367.	2.5	162
88	Observation of Anisotropy in Thermal Conductivity of Individual Single-Crystalline Bismuth Nanowires. ACS Nano, 2011, 5, 3954-3960.	7.3	68
89	Thermal Conductivity of Ge and Geâ€“Si Coreâ€“Shell Nanowires in the Phonon Confinement Regime. Nano Letters, 2011, 11, 5507-5513.	4.5	171
90	Thermal conductivity reduction in an individual single crystalline Bi nanowire by size effect. , 2010, , .		2

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91	Fabrication of Microdevices with Integrated Nanowires for Investigating Low-Dimensional Phonon Transport. Nano Letters, 2010, 10, 4341-4348.	4.5	148
92	Enhanced thermoelectric performance of rough silicon nanowires. , 2010, , 111-115.		2
93	Nanowires for Enhanced Boiling Heat Transfer. Nano Letters, 2009, 9, 548-553.	4.5	600
94	Enhanced thermoelectric performance of rough silicon nanowires. Nature, 2008, 451, 163-167.	13.7	3,721
95	Thermal Conductance of Thin Silicon Nanowires. Physical Review Letters, 2008, 101, 105501.	2.9	316