

Renkun Chen

List of Publications by Year in descending order

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95
papers

9,160
citations

81839

39
h-index

48277

88
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96
all docs

96
docs citations

96
times ranked

9532
citing authors

#	ARTICLE	IF	CITATIONS
1	Enhanced thermoelectric performance of rough silicon nanowires. <i>Nature</i> , 2008, 451, 163-167.	13.7	3,721
2	Nanowires for Enhanced Boiling Heat Transfer. <i>Nano Letters</i> , 2009, 9, 548-553.	4.5	600
3	Thermal Conductance of Thin Silicon Nanowires. <i>Physical Review Letters</i> , 2008, 101, 105501.	2.9	316
4	Wearable thermoelectrics for personalized thermoregulation. <i>Science Advances</i> , 2019, 5, eaaw0536.	4.7	299
5	Emerging Materials and Strategies for Personal Thermal Management. <i>Advanced Energy Materials</i> , 2020, 10, 1903921.	10.2	290
6	Dendrite Suppression Membranes for Rechargeable Zinc Batteries. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 38928-38935.	4.0	189
7	Size disorder as a descriptor for predicting reduced thermal conductivity in medium- and high-entropy pyrochlore oxides. <i>Scripta Materialia</i> , 2020, 181, 76-81.	2.6	173
8	Thermal Conductivity of Ge and Ge@Si Core-Shell Nanowires in the Phonon Confinement Regime. <i>Nano Letters</i> , 2011, 11, 5507-5513.	4.5	171
9	Critical heat flux of pool boiling on Si nanowire array-coated surfaces. <i>International Journal of Heat and Mass Transfer</i> , 2011, 54, 5359-5367.	2.5	162
10	From high-entropy ceramics to compositionally-complex ceramics: A case study of fluorite oxides. <i>Journal of the European Ceramic Society</i> , 2020, 40, 2120-2129.	2.8	160
11	Electrospun liquid crystal elastomer microfiber actuator. <i>Science Robotics</i> , 2021, 6, .	9.9	157
12	Fabrication of Microdevices with Integrated Nanowires for Investigating Low-Dimensional Phonon Transport. <i>Nano Letters</i> , 2010, 10, 4341-4348.	4.5	148
13	Osmotic Pumping and Salt Rejection by Polyelectrolyte Hydrogel for Continuous Solar Desalination. <i>Advanced Energy Materials</i> , 2019, 9, 1900552.	10.2	131
14	Thermal transport in amorphous materials: a review. <i>Semiconductor Science and Technology</i> , 2016, 31, 113003.	1.0	112
15	High performance multi-scaled nanostructured spectrally selective coating for concentrating solar power. <i>Nano Energy</i> , 2014, 8, 238-246.	8.2	110
16	Thermoelectrics of Nanowires. <i>Chemical Reviews</i> , 2019, 119, 9260-9302.	23.0	110
17	Ultra-sensitive thermal conductance measurement of one-dimensional nanostructures enhanced by differential bridge. <i>Review of Scientific Instruments</i> , 2012, 83, 024901.	0.6	100
18	High-Performance Screen-Printed Thermoelectric Films on Fabrics. <i>Scientific Reports</i> , 2017, 7, 7317.	1.6	100

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19	Thermal transport in phononic crystals: The role of zone folding effect. <i>Journal of Applied Physics</i> , 2012, 111, .	1.1	94
20	Sub-amorphous Thermal Conductivity in Ultrathin Crystalline Silicon Nanotubes. <i>Nano Letters</i> , 2015, 15, 2605-2611.	4.5	94
21	An Adaptive and Wearable Thermal Camouflage Device. <i>Advanced Functional Materials</i> , 2020, 30, 1909788.	7.8	92
22	Spark erosion: a high production rate method for producing Bi _{0.5} Sb _{1.5} Te ₃ nanoparticles with enhanced thermoelectric performance. <i>Nanotechnology</i> , 2012, 23, 415604.	1.3	88
23	Structure-induced enhancement of thermal conductivities in electrospun polymer nanofibers. <i>Nanoscale</i> , 2014, 6, 8283-8291.	2.8	78
24	Ultralow Thermal Conductivity of Multilayers with Highly Dissimilar Debye Temperatures. <i>Nano Letters</i> , 2014, 14, 2448-2455.	4.5	77
25	Ultrahigh Flux Thin Film Boiling Heat Transfer Through Nanoporous Membranes. <i>Nano Letters</i> , 2018, 18, 3096-3103.	4.5	77
26	Gate-Modulated Thermoelectric Power Factor of Hole Gas in Ge/Si Core/Shell Nanowires. <i>Nano Letters</i> , 2013, 13, 1196-1202.	4.5	69
27	Observation of Anisotropy in Thermal Conductivity of Individual Single-Crystalline Bismuth Nanowires. <i>ACS Nano</i> , 2011, 5, 3954-3960.	7.3	68
28	Black oxide nanoparticles as durable solar absorbing material for high-temperature concentrating solar power system. <i>Solar Energy Materials and Solar Cells</i> , 2015, 134, 417-424.	3.0	68
29	Reversible Humidity Sensitive Clothing for Personal Thermoregulation. <i>Scientific Reports</i> , 2017, 7, 44208.	1.6	66
30	Phase transformation and thermoelectric properties of bismuth-telluride nanowires. <i>Nanoscale</i> , 2013, 5, 4669.	2.8	63
31	Advanced Materials for High-Temperature Thermal Transport. <i>Advanced Functional Materials</i> , 2020, 30, 1904815.	7.8	63
32	Thermal conductivity reduction of tungsten plasma facing material due to helium plasma irradiation in PISCES using the improved 3-omega method. <i>Journal of Nuclear Materials</i> , 2017, 486, 267-273.	1.3	59
33	Unusually High and Anisotropic Thermal Conductivity in Amorphous Silicon Nanostructures. <i>ACS Nano</i> , 2017, 11, 2470-2476.	7.3	51
34	Copper-alloyed spinel black oxides and tandem-structured solar absorbing layers for high-temperature concentrating solar power systems. <i>Solar Energy</i> , 2016, 132, 257-266.	2.9	49
35	Single-phase duodenary high-entropy fluorite/pyrochlore oxides with an order-disorder transition. <i>Acta Materialia</i> , 2021, 211, 116858.	3.8	48
36	Optical properties and thermal stability of Cu spinel oxide nanoparticle solar absorber coatings. <i>Solar Energy Materials and Solar Cells</i> , 2019, 195, 81-88.	3.0	46

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37	Bio-inspired effective and regenerable building cooling using tough hydrogels. <i>Applied Energy</i> , 2016, 168, 332-339.	5.1	44
38	Observation of superdiffusive phonon transport in aligned atomic chains. <i>Nature Nanotechnology</i> , 2021, 16, 764-768.	15.6	43
39	High-contrast and reversible polymer thermal regulator by structural phase transition. <i>Science Advances</i> , 2019, 5, eaax3777.	4.7	41
40	Multi-layer temperature-responsive hydrogel for forward-osmosis desalination with high permeable flux and fast water release. <i>Desalination</i> , 2019, 459, 105-113.	4.0	38
41	Dual-mode solid-state thermal rectification. <i>Nature Communications</i> , 2020, 11, 4346.	5.8	37
42	Thermal transport in Si and Ge nanostructures in the δ^{∞} confinement regime. <i>Nanoscale</i> , 2016, 8, 13155-13167.	2.8	35
43	Sub-picowatt/kelvin resistive thermometry for probing nanoscale thermal transport. <i>Review of Scientific Instruments</i> , 2013, 84, 114901.	0.6	31
44	Near-surface thermal characterization of plasma facing components using the 3-omega method. <i>Journal of Nuclear Materials</i> , 2014, 455, 56-60.	1.3	31
45	Far-field coherent thermal emission from polaritonic resonance in individual anisotropic nanoribbons. <i>Nature Communications</i> , 2019, 10, 1377.	5.8	31
46	Tandem structured spectrally selective coating layer of copper oxide nanowires combined with cobalt oxide nanoparticles. <i>Nano Energy</i> , 2015, 11, 247-259.	8.2	30
47	The effects of ultra-fine-grained structure and cryogenic temperature on adiabatic shear localization in titanium. <i>Acta Materialia</i> , 2019, 181, 408-422.	3.8	29
48	Measurement and analysis of thermal conductivity of ceramic particle beds for solar thermal energy storage. <i>Solar Energy Materials and Solar Cells</i> , 2021, 230, 111271.	3.0	29
49	Widely tunable thin film boiling heat transfer through nanoporous membranes. <i>Nano Energy</i> , 2018, 54, 297-303.	8.2	28
50	Elevating low-emissivity film for lower thermal transmittance. <i>Energy and Buildings</i> , 2019, 193, 69-77.	3.1	25
51	21-Component compositionally complex ceramics: Discovery of ultrahigh-entropy weberite and fergusonite phases and a pyrochlore-weberite transition. <i>Journal of Advanced Ceramics</i> , 2022, 11, 641-655.	8.9	24
52	Role of surfactant on thermoelectric behaviors of organic-inorganic composites. <i>Journal of Applied Physics</i> , 2018, 123, .	1.1	23
53	Thermal conductivity degradation and recovery in ion beam damaged tungsten at different temperature. <i>Journal of Nuclear Materials</i> , 2018, 511, 141-147.	1.3	21
54	Sub-nanowatt microfluidic single-cell calorimetry. <i>Nature Communications</i> , 2020, 11, 2982.	5.8	21

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55	Phonon gas model for thermal conductivity of dense, strongly interacting liquids. <i>Journal of Applied Physics</i> , 2021, 129, .	1.1	21
56	Scientific and Technical Challenges in Thermal Transport and Thermoelectric Materials and Devices. <i>ECS Journal of Solid State Science and Technology</i> , 2017, 6, N3058-N3064.	0.9	19
57	Infrared emissivity of copper-alloyed spinel black coatings for concentrated solar power systems. <i>Solar Energy Materials and Solar Cells</i> , 2019, 200, 109961.	3.0	18
58	Deuterium retention and thermal conductivity in ion-beam displacement-damaged tungsten. <i>Nuclear Materials and Energy</i> , 2017, 12, 164-168.	0.6	17
59	Transition between thin film boiling and evaporation on nanoporous membranes near the kinetic limit. <i>International Journal of Heat and Mass Transfer</i> , 2020, 154, 119673.	2.5	17
60	Short-range order and origin of the low thermal conductivity in compositionally complex rare-earth niobates and tantalates. <i>Acta Materialia</i> , 2022, 235, 118056.	3.8	17
61	Strong size-dependent stress relaxation in electrospun polymer nanofibers. <i>Journal of Applied Physics</i> , 2017, 121, 015103.	1.1	15
62	Measurement of High-temperature Thermophysical Properties of Bulk and Coatings Using Modulated Photothermal Radiometry. <i>International Journal of Heat and Mass Transfer</i> , 2021, 170, 120989.	2.5	15
63	Silicide Nanopowders as Low-Cost and High-Performance Thermoelectric Materials. <i>Jom</i> , 2013, 65, 702-708.	0.9	10
64	Si boride-coated Si nanoparticles with improved thermal oxidation resistance. <i>Nano Energy</i> , 2014, 9, 32-40.	8.2	10
65	High-temperature stable refractory nanoneedles with over 99% solar absorptance. <i>APL Materials</i> , 2019, 7, .	2.2	10
66	Modeling of hydrogen liquefaction using magnetocaloric cycles with permanent magnets. <i>International Journal of Refrigeration</i> , 2020, 119, 238-246.	1.8	10
67	Sub-picowatt resolution calorimetry with niobium nitride thin-film thermometer. <i>Review of Scientific Instruments</i> , 2014, 85, 094903.	0.6	8
68	Vertical Si nanowire arrays fabricated by magnetically guided metal-assisted chemical etching. <i>Nanotechnology</i> , 2016, 27, 455302.	1.3	8
69	Simultaneous specific heat and thermal conductivity measurement of individual nanostructures. <i>Semiconductor Science and Technology</i> , 2016, 31, 084005.	1.0	8
70	Plasmonically Enhanced Thermal Radiation by Means of Surface Phonon Polaritons. <i>Physical Review Applied</i> , 2020, 14, .	1.5	8
71	Improved window energy efficiency with thermal insulating polymer-air multilayer. <i>Applied Thermal Engineering</i> , 2021, 191, 116890.	3.0	8
72	Discovery of a reversible redox-induced order-disorder transition in a 10-component compositionally complex ceramic. <i>Scripta Materialia</i> , 2022, 215, 114699.	2.6	8

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73	Fluid-like Surface Layer and Its Flow Characteristics in Glassy Nanotubes. Nano Letters, 2016, 16, 7545-7550.	4.5	7
74	Cool textile. Joule, 2021, 5, 2258-2260.	11.7	7
75	Probing the limit of one-dimensional heat transfer under extreme bending strain. Physical Review B, 2013, 87, .	1.1	6
76	Uniformly Nanopatterned Graphene Field-Effect Transistors with Enhanced Properties. Nanoscale Research Letters, 2015, 10, 976.	3.1	6
77	Energy Storage in Paraffin: A PDE Backstepping Experiment. IEEE Transactions on Control Systems Technology, 2021, 29, 1490-1502.	3.2	6
78	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
79	Universal solders for direct bonding and packaging of optical devices. Materials Letters, 2015, 152, 232-236.	1.3	5
80	Hollow photonic structures of transparent conducting oxide with selective and tunable absorptance. Applied Thermal Engineering, 2018, 145, 416-422.	3.0	4
81	Origin of inhomogeneity in spark plasma sintered bismuth antimony telluride thermoelectric nanocomposites. Nano Research, 2020, 13, 1339-1346.	5.8	4
82	Boiling with ultralow superheat using confined liquid film. Applied Thermal Engineering, 2021, 184, 116356.	3.0	4
83	Thermal conductivity modeling of monodispersed microspheres using discrete element method. Journal of Applied Physics, 2021, 130, .	1.1	4
84	Suppressing thermal conductivity of nano-grained thermoelectric material using acoustically hard nanoparticles. Journal of Applied Physics, 2021, 130, .	1.1	4
85	Preface“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
86	Thermal conductivity reduction in an individual single crystalline Bi nanowire by size effect. , 2010, , .		2
87	Enhanced thermoelectric performance of rough silicon nanowires. , 2010, , 111-115.		2
88	Phononic and Electronic Engineering in Nanowires for Enhanced Thermoelectric Performance. RSC Smart Materials, 2014, , 400-437.	0.1	1
89	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
90	Thermal Conductivity Measurement of Thin Nanowires. , 2011, , .		0

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91	Modeling of Thermal Transport in Phononic Crystals Using Finite Difference Time Domain Method. , 2011, , .		0
92	The new limit of heat transfer under extreme strain. , 2012, , .		0
93	High Heat Flux Boiling Heat Transfer Through Nanoporous Membranes. , 2018, , .		0
94	Hollow-Structured Bilayer System for Windowpane Insulation. Journal of Energy Engineering - ASCE, 2021, 147, 06021001.	1.0	0
95	HIGH HEAT FLUX PHASE CHANGE HEAT TRANSFER THROUGH NANOPOROUS MEMBRANES. , 2018, , .		0