Chris Dames

List of Publications by Year
in descending order

59 papers	5,555 citations	159358 30 h-index	143772 57 g-index
59 all docs	59 docs citations	59 times ranked	8050 citing authors

#	Article	IF	Citations
1	Controlled ripple texturing of suspended graphene and ultrathin graphite membranes. Nature Nanotechnology, 2009, 4, 562-566.	15.6	1,186
2	Double-negative-index ceramic aerogels for thermal superinsulation. Science, 2019, 363, 723-727.	6.0	429
3	Thermal Conductivity of Nanocrystalline Silicon: Importance of Grain Size and Frequency-Dependent Mean Free Paths. Nano Letters, 2011, 11, 2206-2213.	4.5	386
4	Thermal diodes, regulators, and switches: Physical mechanisms and potential applications. Applied Physics Reviews, 2017, 4, 041304.	5.5	322
5	Anomalously low electronic thermal conductivity in metallic vanadium dioxide. Science, 2017, 355, 371-374.	6.0	307
6	Thickness-Dependent Thermal Conductivity of Encased Graphene and Ultrathin Graphite. Nano Letters, 2010, 10, 3909-3913.	4.5	304
7	Advances in Thermal Conductivity. Annual Review of Materials Research, 2012, 42, 179-209.	4.3	250
8	$ per W metrics for thermoelectric power generation: beyond ZT. Energy and Environmental Science, 2013, 6, 2561-2571.	15.6	201
9	Pyroelectric energy conversion with large energy and power density in relaxor ferroelectric thin films. Nature Materials, 2018, 17, 432-438.	13.3	198
10	Thermal Boundary Conductance: A Materials Science Perspective. Annual Review of Materials Research, 2016, 46, 433-463.	4.3	185
11	Efficient thermal management of Li-ion batteries with a passive interfacial thermal regulator based on a shape memory alloy. Nature Energy, 2018, 3, 899-906.	19.8	154
12	Investigation of phonon coherence and backscattering using silicon nanomeshes. Nature Communications, 2017, 8, 14054.	5.8	123
13	MEASURING THE THERMAL CONDUCTIVITY OF THIN FILMS: 3 OMEGA AND RELATED ELECTROTHERMAL METHODS. Annual Review of Heat Transfer, 2013, 16, 7-49.	0.3	118
14	Simultaneous Enhancement of Electrical Conductivity and Thermopower of Bi₂Te₃ by Multifunctionality of Native Defects. Advanced Materials, 2015, 27, 3681-3686.	11.1	97
15	Thermoelectric properties and performance of flexible reduced graphene oxide films up to 3,000 K. Nature Energy, 2018, 3, 148-156.	19.8	96
16	Integrated cooling (i-Cool) textile of heat conduction and sweat transportation for personal perspiration management. Nature Communications, 2021, 12, 6122.	5.8	86
17	Apparent self-heating of individual upconverting nanoparticle thermometers. Nature Communications, 2018, 9, 4907.	5.8	82
18	New approach to waste-heat energy harvesting: pyroelectric energy conversion. NPG Asia Materials, 2019, 11, .	3.8	78

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19	A Thermal Radiation Modulation Platform by Emissivity Engineering with Graded Metalâ€“Insulator Transition. Advanced Materials, 2020, 32, e1907071.	11.1	75
20	Evaluating Broader Impacts of Nanoscale Thermal Transport Research. Nanoscale and Microscale Thermophysical Engineering, 2015, 19, 127-165.	1.4	69
21	Analysis and improvement of the hot disk transient plane source method for low thermal conductivity materials. International Journal of Heat and Mass Transfer, 2020, 151, 119331.	2.5	69
22	A photon thermal diode. Nature Communications, 2014, 5, 5446.	5.8	62
23	Flexible, High Temperature, Planar Lighting with Large Scale Printable Nanocarbon Paper. Advanced Materials, 2016, 28, 4684-4691.	11.1	59
24	Direct Measurement of Pyroelectric and Electrocaloric Effects in Thin Films. Physical Review Applied, 2017, 7, .	1.5	54
25	Comparison of Twoâ€Phase Thermal Conductivity Models with Experiments on Dilute Ceramic Composites. Journal of the American Ceramic Society, 2013, 96, 2935-2942.	1.9	52
26	Negative correlation between in-plane bonding strength and cross-plane thermal conductivity in a model layered material. Applied Physics Letters, 2013, 102, .	1.5	50
27	Reusable bi-directional 3<i>Ï‰</i> sensor to measure thermal conductivity of 100-<i>Î¼</i>m thick biological tissues. Review of Scientific Instruments, 2015, 86, 014905.	0.6	45
28	Ultrahigh thermal conductivity confirmed in boron arsenide. Science, 2018, 361, 549-550.	6.0	42
29	Electric-Field-Controlled Thermal Switch in Ferroelectric Materials Using First-Principles Calculations and Domain-Wall Engineering. Physical Review Applied, 2019, 11, .	1.5	42
30	A 3 omega method to measure an arbitrary anisotropic thermal conductivity tensor. Review of Scientific Instruments, 2015, 86, 054902.	0.6	41
31	Understanding the Role of Ferroelastic Domains on the Pyroelectric and Electrocaloric Effects in Ferroelectric Thin Films. Advanced Materials, 2019, 31, e1803312.	11.1	34
32	An anisotropic model for the minimum thermal conductivity. Applied Physics Letters, 2015, 107, .	1.5	30
33	Wave packet simulations of phonon boundary scattering at graphene edges. Journal of Applied Physics, 2012, 112, 024328.	1.1	29
34	Far-field optical nanothermometry using individual sub-50 nm upconverting nanoparticles. Nanoscale, 2016, 8, 11611-11616.	2.8	24
35	Advances in thermal conductivity for energy applications: a review. Progress in Energy, 2021, 3, 012002.	4.6	24
36	Large Thermal Conductivity Switch Ratio in Barium Titanate Under Electric Field through Firstâ€Principles Calculation. Advanced Theory and Simulations, 2018, 1, 1800098.	1.3	23

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37	Measuring temperature-dependent thermal diffuse scattering using scanning transmission electron microscopy. Applied Physics Letters, 2018, 113, .	1.5	18
38	Quantifying Intrinsic, Extrinsic, Dielectric, and Secondary Pyroelectric Responses in PbZr_{1â€“<i>x</i>}Ti_{<i>x</i>}O₃ Thin Films. ACS Applied Materials & Interfaces, 2019, 11, 35146-35154.	4.0	16
39	Anisotropic thermal conductivity tensor measurements using beam-offset frequency domain thermoreflectance (BO-FDTR) for materials lacking in-plane symmetry. International Journal of Heat and Mass Transfer, 2021, 164, 120600.	2.5	14
40	A Micro-Thermal Sensor for Focal Therapy Applications. Scientific Reports, 2016, 6, 21395.	1.6	13
41	Thermal Conductivity of an Individual Bismuth Nanowire Covered with a Quartz Template Using a 3-Omega Technique. Journal of Electronic Materials, 2013, 42, 2048-2055.	1.0	11
42	Correspondence: Reply to â€˜The experimental requirements for a photon thermal diodeâ€™. Nature Communications, 2017, 8, .	5.8	8
43	A multi-frequency 3Ï‰ method for tracking moving phase boundaries. Review of Scientific Instruments, 2019, 90, 094903.	0.6	7
44	Adapting the Electron Beam from SEM as a Quantitative Heating Source for Nanoscale Thermal Metrology. Nano Letters, 2020, 20, 3019-3029.	4.5	7
45	Leveraging Anisotropy for Coupled Optimization of Thermal Transport and Light Transmission in Microâ€Structured Materials for Highâ€Power Laser Applications. Advanced Theory and Simulations, 2020, 3, 2000036.	1.3	5
46	Reply to the â€˜comment on â€œ$ per W metrics for thermoelectric power generation: beyond ZTâ€â€™ by G. Nunes, Jr, Energy Environ. Sci., 2014, 7, DOI: 10.1039/C3EE43700K. Energy and Environmental Science, 2014, 7, 3441-3442.	15.6	4
47	Size and shape effects on the measured peak temperatures of nanoscale hotspots. Journal of Applied Physics, 2020, 128, .	1.1	4
48	A non-volatile thermal switch for building energy savings. Cell Reports Physical Science, 2022, 3, 100960.	2.8	4
49	Thermal Conductivity Measurements of Thin Biological Tissues Using a Microfabricated 3-Omega Sensor. Journal of Medical Devices, Transactions of the ASME, 2013, 7, .	0.4	3
50	Nanocarbon Paper: Flexible, High Temperature, Planar Lighting with Large Scale Printable Nanocarbon Paper (Adv. Mater. 23/2016). Advanced Materials, 2016, 28, 4566-4566.	11.1	3
51	Structured illumination with thermal imaging (SI-TI): A dynamically reconfigurable metrology for parallelized thermal transport characterization. Applied Physics Reviews, 2022, 9, .	5.5	3
52	3Ï‰ Measurements for Tracking Freezing Fronts in Biological Applications. Materials Research Society Symposia Proceedings, 2015, 1779, 15-20.	0.1	2
53	Melting Point Depression and Phase Identification of Sugar Alcohols Encapsulated in ZIF Nanopores. Journal of Physical Chemistry C, 2021, 125, 10001-10010.	1.5	2
54	Thermoelectric Energy Conversion in Nanostructures. , 2006, , .		1

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55	Report on the Eighth USâ€“Japan Joint Seminar on Nanoscale Transport Phenomenaâ€”Science and Engineering. Nanoscale and Microscale Thermophysical Engineering, 2015, 19, 95-97.	1.4	1
56	Modified Ballisticâ€“Diffusive Equations for Obtaining Phonon Mean Free Path Spectrum from Ballistic Thermal Resistance: II. Derivation of Integral Equation Based on Ballistic Thermal Resistance. Nanoscale and Microscale Thermophysical Engineering, 2019, 23, 334-347.	1.4	1
57	Modified ballisticâ€“diffusive equations for obtaining phonon mean free path spectrum from ballistic thermal resistance: I. Introduction and validation of the equations. Nanoscale and Microscale Thermophysical Engineering, 2019, 23, 259-273.	1.4	1
58	Processing and Thermal Conductivity of Bulk Nanocrystalline Aluminum Nitride. Materials, 2021, 14, 5565.	1.3	1
59	22pm1-E2 Numerical simulation of effective phonon mean free path in polycrystalline nanostructures. The Proceedings of the Symposium on Micro-Nano Science and Technology, 2014, 2014.6, _22pm1-E2--_22pm1-E2-.	0.0	0