Jonathan A Malen

List of Publications by Year
in descending order

83 papers	4,488 citations	136740 32 h-index	102304 66 g-index
84 all docs	84 docs citations	84 times ranked	5506 citing authors

#	Article	IF	Citations
1	Broadband phonon mean free path contributions to thermal conductivity measured using frequency domain thermoreflectance. Nature Communications, 2013, 4, 1640.	5.8	479
2	High thermal conductivity in soft elastomers with elongated liquid metal inclusions. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 2143-2148.	3.3	456
3	Probing the Chemistry of Molecular Heterojunctions Using Thermoelectricity. Nano Letters, 2008, 8, 715-719.	4.5	250
4	Surface chemistry mediates thermal transport in three-dimensional nanocrystal arrays. Nature Materials, 2013, 12, 410-415.	13.3	218
5	Identifying the Length Dependence of Orbital Alignment and Contact Coupling in Molecular Heterojunctions. Nano Letters, 2009, 9, 1164-1169.	4.5	207
6	A multifunctional shape-morphing elastomer with liquid metal inclusions. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 21438-21444.	3.3	203
7	Thermoelectricity in Fullereneâ€"Metal Heterojunctions. Nano Letters, 2011, 11, 4089-4094.	4.5	163
8	Thermally conductive ultra-low-k dielectric layers based on two-dimensional covalent organic frameworks. Nature Materials, 2021, 20, 1142-1148.	13.3	158
9	Fundamentals of energy transport, energy conversion, and thermal properties in organicâ€"inorganic heterojunctions. Chemical Physics Letters, 2010, 491, 109-122.	1.2	151
10	Universal phonon mean free path spectra in crystalline semiconductors at high temperature. Scientific Reports, 2013, 3, 2963.	1.6	125
11	Microsecond-sustained lasing from colloidal quantum dot solids. Nature Communications, 2015, 6, 8694.	5.8	109
12	Vibrational Mismatch of Metal Leads Controls Thermal Conductance of Self-Assembled Monolayer Junctions. Nano Letters, 2015, 15, 2985-2991.	4.5	104
13	Optical Measurement of Thermal Conductivity Using Fiber Aligned Frequency Domain Thermoreflectance. Journal of Heat Transfer, 2011, 133, .	1.2	101
14	The Nature of Transport Variations in Molecular Heterojunction Electronics. Nano Letters, 2009, 9, 3406-3412.	4.5	97
15	Observation of reduced thermal conductivity in a metal-organic framework due to the presence of adsorbates. Nature Communications, 2020, 11, 4010.	5.8	97
16	Gas Diffusion, Energy Transport, and Thermal Accommodation in Singleâ€Walled Carbon Nanotube Aerogels. Advanced Functional Materials, 2012, 22, 5251-5258.	7.8	95
17	Phonon Speed, Not Scattering, Differentiates Thermal Transport in Lead Halide Perovskites. Nano Letters, 2017, 17, 5734-5739.	4.5	94
18	Orientational order controls crystalline andÂamorphous thermal transport in superatomicÂcrystals. Nature Materials, 2017, 16, 83-88.	13.3	94

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19	Thermal conductivity of metal powders for powder bed additive manufacturing. Additive Manufacturing, 2018, 21, 201-208.	1.7	91
20	Instrumentation of broadband frequency domain thermoreflectance for measuring thermal conductivity accumulation functions. Review of Scientific Instruments, 2013, 84, 064901.	0.6	70
21	Coupling of Organic and Inorganic Vibrational States and Their Thermal Transport in Nanocrystal Arrays. Journal of Physical Chemistry C, 2014, 118, 7288-7295.	1.5	68
22	Tunable Electrical and Thermal Transport in Ice-Templated Multilayer Graphene Nanocomposites through Freezing Rate Control. ACS Nano, 2013, 7, 11183-11189.	7.3	65
23	Periodic heating amplifies the efficiency of thermoelectric energy conversion. Energy and Environmental Science, 2013, 6, 1267.	15.6	58
24	Advances in Studying Phonon Mean Free Path Dependent Contributions to Thermal Conductivity. Nanoscale and Microscale Thermophysical Engineering, 2015, 19, 183-205.	1.4	56
25	Enhancement of Thermal Conductance at Metal-Dielectric Interfaces Using Subnanometer Metal Adhesion Layers. Physical Review Applied, 2016, 5, .	1.5	51
26	Ferroelectric Domain Walls in PbTiO₃ Are Effective Regulators of Heat Flow at Room Temperature. Nano Letters, 2019, 19, 7901-7907.	4.5	48
27	Analytical interpretation of nondiffusive phonon transport in thermoreflectance thermal conductivity measurements. Physical Review B, 2014, 90, .	1.1	44
28	Layer-by-layer thermal conductivities of the Group III nitride films in blue/green light emitting diodes. Applied Physics Letters, 2012, 100, .	1.5	43
29	Phonon-boundary scattering in nanoporous silicon films: Comparison of Monte Carlo techniques. Journal of Applied Physics, 2017, 122, .	1.1	38
30	Bi_{1â€"<i>x</i>}Sb_{<i>x</i>} Alloy Nanocrystals: Colloidal Synthesis, Charge Transport, and Thermoelectric Properties. ACS Nano, 2013, 7, 10296-10306.	7.3	36
31	Cooperative Molecular Behavior Enhances the Thermal Conductance of Binary Self-Assembled Monolayer Junctions. Nano Letters, 2017, 17, 220-227.	4.5	36
32	Modifying the thermal conductivity of small molecule organic semiconductor thin films with metal nanoparticles. Scientific Reports, 2015, 5, 16095.	1.6	35
33	Methanol Steam Reformer on a Silicon Wafer. Journal of Microelectromechanical Systems, 2006, 15, 976-985.	1.7	34
34	Improved 3-omega measurement of thermal conductivity in liquid, gases, and powders using a metal-coated optical fiber. Review of Scientific Instruments, 2011, 82, 064903.	0.6	31
35	The impact of film thickness and substrate surface roughness on the thermal resistance of aluminum nitride nucleation layers. Journal of Applied Physics, 2013, 113, .	1.1	30
36	Chemical Reactions Impede Thermal Transport Across Metal/Î²-Ga₂O₃ Interfaces. Nano Letters, 2019, 19, 8533-8538.	4.5	28

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37	Doping-Induced Superconductivity in the van der Waals Superatomic Crystal Re₆Se₈Cl₂. Nano Letters, 2020, 20, 1718-1724.	4.5	28
38	Large Thermal Conductivity Differences between the Crystalline and Vitrified States of DMSO with Applications to Cryopreservation. PLoS ONE, 2015, 10, e0125862.	1.1	27
39	Hydride fuel for LWRsâ€"Project overview. Nuclear Engineering and Design, 2009, 239, 1374-1405.	0.8	25
40	Thermal Analyses of a Human Kidney and a Rabbit Kidney During Cryopreservation by Vitrification. Journal of Biomechanical Engineering, 2018, 140, .	0.6	23
41	Signatures of Coherent Phonon Transport in Ultralow Thermal Conductivity Two-Dimensional Ruddlesdenâ€"Popper Phase Perovskites. ACS Nano, 2021, 15, 4165-4172.	7.3	21
42	Enhancing thermal transport in nanocomposites by polymer-graft modification of particle fillers. Polymer, 2016, 93, 72-77.	1.8	20
43	Amplified charge and discharge rates in phase change materials for energy storage using spatially-enhanced thermal conductivity. Applied Energy, 2016, 181, 224-231.	5.1	20
44	Thermal interface conductance across metal alloyâ€"dielectric interfaces. Physical Review B, 2016, 93, .	1.1	20
45	Interpretation of thermoreflectance measurements with a two-temperature model including non-surface heat deposition. Journal of Applied Physics, 2015, 118, .	1.1	18
46	Spontaneous Electronic Band Formation and Switchable Behaviors in a Phase-Rich Superatomic Crystal. Journal of the American Chemical Society, 2018, 140, 15601-15605.	6.6	17
47	Thermal hydraulic analysis for grid supported pressurized water reactor cores. Nuclear Engineering and Design, 2009, 239, 1442-1460.	0.8	16
48	Temperature Dependent Thermal Conductivity and Thermal Interface Resistance of Pentacene Thin Films with Varying Morphology. ACS Applied Materials & Interfaces, 2016, 8, 19168-19174.	4.0	14
49	Nanoscale thermal transport aspects of heat-assisted magnetic recording devices and materials. MRS Bulletin, 2018, 43, 112-118.	1.7	14
50	Experimental estimates of in-plane thermal conductivity in FePt-C granular thin film heat assisted magnetic recording media using a model layered system. Applied Physics Letters, 2013, 103, .	1.5	13
51	Thermal conductivity of the cryoprotective cocktail DP6 in cryogenic temperatures, in the presence and absence of synthetic ice modulators. Cryobiology, 2016, 73, 196-202.	0.3	13
52	Economic analysis of grid and wire wrap supported hydride and oxide fueled pressurized water reactors. Nuclear Engineering and Design, 2009, 239, 1505-1530.	0.8	12
53	Assessing the impact of disjoining pressure on thin-film evaporation with atomistic simulation and kinetic theory. Applied Physics Letters, 2020, 116, .	1.5	12
54	Solution-Processable Superatomic Thin-Films. Journal of the American Chemical Society, 2019, 141, 10967-10971.	6.6	11

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55	Compositionally matched nitrogen-doped Ge2Sb2Te5/Ge2Sb2Te5 superlattice-like structures for phase change random access memory. Applied Physics Letters, 2013, 103, 133507.	1.5	10
56	Morse potential-based model for contacting composite rough surfaces: Application to self-assembled monolayer junctions. Journal of Applied Physics, 2016, 119, .	1.1	9
57	Effect of epitaxial strain and vacancies on the ferroelectric-like response of CaTiO3 thin films. Applied Physics Letters, 2018, 113, .	1.5	9
58	Nondiffusive Thermal Transport Increases Temperature Rise in RRAM Filaments. IEEE Electron Device Letters, 2016, 37, 572-575.	2.2	8
59	Reduction of thermal conductivity in ferroelectric <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>SrTiO</mml:mi><mml:mn>3</mml:mn></mml:msub></m thin films. Physical Review Materials, 2020, 4, .	0.9	8
60	Fullerene rotational dynamics generate disordered configurations that suppress thermal conductivity in superatomic crystals. Nanoscale Horizons, 2020, 5, 1524-1529.	4.1	7
61	Thermal hydraulic design of a hydride-fueled inverted PWR core. Nuclear Engineering and Design, 2009, 239, 1471-1480.	0.8	6
62	Impact of metal adhesion layer diffusion on thermal interface conductance. Physical Review B, 2019, 99, .	1.1	6
63	Nanocrystal Ordering Enhances Thermal Transport and Mechanics in Single-Domain Colloidal Nanocrystal Superlattices. Nano Letters, 2022, 22, 4669-4676.	4.5	6
64	Enhancing Thermal Interface Conductance to Graphene Using Niâ€“Pd Alloy Contacts. ACS Applied Materials & Interfaces, 2020, 12, 34317-34322.	4.0	5
65	Hot-spot thermal management by phase change materials enhanced by spatially graded metal meshes. International Journal of Heat and Mass Transfer, 2020, 150, 119153.	2.5	5
66	Reducing the uncertainty caused by the laser spot radius in frequency-domain thermoreflectance measurements of thermal properties. Review of Scientific Instruments, 2022, 93, 023001.	0.6	4
67	Heat Dissipation in GaN Based Power Electronics. ECS Transactions, 2013, 58, 343-349.	0.3	3
68	Thermal Conductance of Î²-Ga₂O₃/Metal Interfaces. , 2018, , .		3
69	Universal Model for Predicting the Thermal Boundary Conductance of a Multilayered-Metalâ€“Dielectric Interface. Physical Review Applied, 2021, 15, .	1.5	3
70	Thermoelectricity at the Organic-Inorganic Interface. , 2010, , .		1
71	Temperature Dependent Thermal Properties in LEDs for Solid State Lighting. , 2012, , .		1
72	Report on the Seventh U.S.â€“Japan Joint Seminar on Nanoscale Transport Phenomenaâ€"Science and Engineering. Nanoscale and Microscale Thermophysical Engineering, 2013, 17, 25-49.	1.4	1

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73	Dependence of Thermal Conductivities of the AlN Film in the LED Architecture on Surface Roughness and Lattice Mismatch. , 2013, , .		1
74	Regulating hot and cold. Nature Energy, 2018, 3, 826-827.	19.8	1
75	Nondiffusive electron transport in metals: A two-temperature Boltzmann transport equation analysis of thermoreflectance experiments. Physical Review B, 2019, 99, .	1.1	1
76	THERMAL TRANSPORT BEHAVIORS IN LEAD HALIDE PEROVSKITES. , 2018, , .		1
77	A Modified 3-Omega Technique to Measure Thermal Conductivity in Liquids, Gases, and Powders. , 2011, , .		0
78	Thermal conductivity measurements of nitrogen-doped Ge<inf>2</inf>Sb<inf>2</inf>Te<inf>5</inf>. , 2011, , .		0
79	Thermal Transport in LEDs for Solid State Lighting. , 2011, , .		0
80	Thermal Conductivity of Carbon Nanotube Aerogels With Different Filling Gases. , 2012, , .		0
81	A New Device and Technique for Thermal Conductivity Measurements of Glass-Forming Materials With Application to Cryopreservation. , 2013, , .		0
82	Nondiffusive heat dissipation from a pulse-heated conductive filament in RRAM. , 2016, , .		0
83	Report on the Ninth U.S.-Japan Joint Seminar on Nanoscale Transport Phenomena. Nanoscale and Microscale Thermophysical Engineering, 2019, 23, 79-80.	1.4	0