Kenneth E Goodson

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

191 papers	12,205 citations	51 h-index	108 g-index
209 ext. papers	13,821 ext. citations	6.3 avg, IF	6.23 L-index

#	Paper	IF	Citations
191	Nanoscale thermal transport. *Journal of Applied Physics*, **2003**, 93, 793-818	2.5	2204
190	Phase Change Memory. *Proceedings of the IEEE*, **2010**, 98, 2201-2227	14.3	1108
189	Nanoscale thermal transport. II. 2003–2012. *Applied Physics Reviews*, **2014**, 1, 011305	17.3	1050
188	A benchmark study on the thermal conductivity of nanofluids. *Journal of Applied Physics*, **2009**, 106, 094312	2.5	766
187	Thermal conduction in aligned carbon nanotube-polymer nanocomposites with high packing density. *ACS Nano*, **2011**, 5, 4818-25	16.7	375
186	Thermal conduction phenomena in carbon nanotubes and related nanostructured materials. *Reviews of Modern Physics*, **2013**, 85, 1295-1326	40.5	309
185	Material and manufacturing cost considerations for thermoelectrics. *Renewable and Sustainable Energy Reviews*, **2014**, 32, 313-327	16.2	305
184	Electrical and thermal transport in metallic single-wall carbon nanotubes on insulating substrates. *Journal of Applied Physics*, **2007**, 101, 093710	2.5	269
183	Integrated Microchannel Cooling for Three-Dimensional Electronic Circuit Architectures. *Journal of Heat Transfer*, **2005**, 127, 49-58	1.8	195
182	3-Omega Measurements of Vertically Oriented Carbon Nanotubes on Silicon. *Journal of Heat Transfer*, **2006**, 128, 1109-1113	1.8	193
181	Managing heat for electronics. *Materials Today*, **2005**, 8, 30-35	21.8	177
180	$ per W metrics for thermoelectric power generation: beyond ZT. *Energy and Environmental Science* , **2013**, 6, 2561-2571	35.4	163
179	Atomic force microscope cantilevers for combined thermomechanical data writing and reading. *Applied Physics Letters*, **2001**, 78, 1300-1302	3.4	150
178	Phase change phenomena in silicon microchannels. *International Journal of Heat and Mass Transfer*, **2005**, 48, 1572-1582	4.9	138
177	HEAT CONDUCTION IN NOVEL ELECTRONIC FILMS. *Annual Review of Materials Research*, **1999**, 29, 261-293		129
176	Analytic band Monte Carlo model for electron transport in Si including acoustic and optical phonon dispersion. *Journal of Applied Physics*, **2004**, 96, 4998-5005	2.5	125
175	Thermal Properties of Ultrathin Hafnium Oxide Gate Dielectric Films. *IEEE Electron Device Letters*, **2009**, 30, 1269-1271	4.4	107

174	Sub-Continuum Simulations of Heat Conduction in Silicon-on-Insulator Transistors. *Journal of Heat Transfer*, **2001**, 123, 130-137	1.8	107
173	Thickness and stoichiometry dependence of the thermal conductivity of GeSbTe films. *Applied Physics Letters*, **2007**, 91, 111904	3.4	100
172	Energy-Efficient Phase-Change Memory with Graphene as a Thermal Barrier. *Nano Letters*, **2015**, 15, 6809-14	11.5	98
171	The Impact of Thermal Boundary Resistance in Phase-Change Memory Devices. *IEEE Electron Device Letters*, **2008**, 29, 1112-1114	4.4	98
170	Thermal Boundary Resistance Measurements for Phase-Change Memory Devices. *IEEE Electron Device Letters*, **2010**, 31, 56-58	4.4	89
169	Measurement of the Thermal Conductivity and Heat Capacity of Freestanding Shape Memory Thin Films Using the 3ω Method. *Journal of Heat Transfer*, **2008**, 130,	1.8	89
168	Temperature-Dependent Thermal Boundary Conductance of Monolayer MoS by Raman Thermometry. *ACS Applied Materials & Interfaces*, **2017**, 9, 43013-43020	9.5	87
167	Modulation of thermal and thermoelectric transport in individual carbon nanotubes by fullerene encapsulation. *Nature Materials*, **2017**, 16, 892-897	27	83
166	Ultrafast characterization of phase-change material crystallization properties in the melt-quenched amorphous phase. *Nano Letters*, **2014**, 14, 3419-26	11.5	82
165	From the Casimir Limit to Phononic Crystals: 20 Years of Phonon Transport Studies Using Silicon-on-Insulator Technology. *Journal of Heat Transfer*, **2013**, 135,	1.8	82
164	Thermal Conduction in Vertically Aligned Copper Nanowire Arrays and Composites. *ACS Applied Materials & Interfaces*, **2015**, 7, 19251-9	9.5	81
163	Fundamental Cooling Limits for High Power Density Gallium Nitride Electronics. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2015**, 5, 737-744	1.7	78
162	Aggregate fractal dimensions and thermal conduction in nanofluids. *Journal of Applied Physics*, **2010**, 108, 074309	2.5	74
161	Phonon scattering in strained transition layers for GaN heteroepitaxy. *Physical Review B*, **2014**, 89,	3.3	72
160	Low Thermal Resistances at GaN–SiC Interfaces for HEMT Technology. *IEEE Electron Device Letters*, **2012**, 33, 378-380	4.4	68
159	Thermal Phenomena in Nanoscale Transistors. *Journal of Electronic Packaging, Transactions of the ASME*, **2006**, 128, 102-108	2	68
158	Anisotropic and inhomogeneous thermal conduction in suspended thin-film polycrystalline diamond. *Journal of Applied Physics*, **2016**, 119, 175103	2.5	68
157	Improved Thermal Interfaces of GaN–Diamond Composite Substrates for HEMT Applications. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2013**, 3, 79-85	1.7	66

156	Multimode thermoelastic dissipation. *Journal of Applied Physics*, **2009**, 105, 043505	2.5	66
155	Quasi-ballistic Electronic Thermal Conduction in Metal Inverse Opals. *Nano Letters*, **2016**, 16, 2754-61	11.5	65
154	Thermal conductivity anisotropy and grain structure in Ge2Sb2Te5 films. *Journal of Applied Physics*, **2011**, 109, 084902	2.5	65
153	Power density optimization for micro thermoelectric generators. *Energy*, **2015**, 93, 2006-2017	7.9	63
152	An electrochemical thermal transistor. *Nature Communications*, **2018**, 9, 4510	17.4	63
151	Evaluating Broader Impacts of Nanoscale Thermal Transport Research. *Nanoscale and Microscale Thermophysical Engineering*, **2015**, 19, 127-165	3.7	60
150	Hydraulic and thermal characteristics of a vapor venting two-phase microchannel heat exchanger. *International Journal of Heat and Mass Transfer*, **2011**, 54, 5504-5516	4.9	60
149	Temperature-dependent phonon conduction and nanotube engagement in metalized single wall carbon nanotube films. *Nano Letters*, **2010**, 10, 2395-400	11.5	60
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147	Thermal transport: Cool electronics. *Nature Materials*, **2015**, 14, 136-7	27	59
146	Fully Coupled Nonequilibrium Electron–Phonon Transport in Nanometer-Scale Silicon FETs. *IEEE Transactions on Electron Devices*, **2008**, 55, 220-232	2.9	59
145	Electrical and thermal conduction in atomic layer deposition nanobridges down to 7 nm thickness. *Nano Letters*, **2012**, 12, 683-6	11.5	57
144	Phonon and electron transport through Ge2Sb2Te5 films and interfaces bounded by metals. *Applied Physics Letters*, **2013**, 102, 191911	3.4	54
143	Comparison of thermal and piezoresistive sensing approaches for atomic force microscopy topography measurements. *Applied Physics Letters*, **2004**, 85, 2086-2088	3.4	52
142	Direct Visualization of Thermal Conductivity Suppression Due to Enhanced Phonon Scattering Near Individual Grain Boundaries. *Nano Letters*, **2018**, 18, 3466-3472	11.5	51
141	Resistance and Threshold Switching Voltage Drift Behavior in Phase-Change Memory and Their Temperature Dependence at Microsecond Time Scales Studied Using a Micro-Thermal Stage. *IEEE Transactions on Electron Devices*, **2011**, 58, 584-592	2.9	51
140	Phonon Conduction in Periodically Porous Silicon Nanobridges. *Nanoscale and Microscale Thermophysical Engineering*, **2012**, 16, 199-219	3.7	50
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138	Extreme Two-Phase Cooling from Laser-Etched Diamond and Conformal, Template-Fabricated Microporous Copper. *Advanced Functional Materials*, **2017**, 27, 1703265	15.6	47
137	Impact of thermoelectric phenomena on phase-change memory performance metrics and scaling. *Nanotechnology*, **2012**, 23, 205201	3.4	47
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131	Thermal conductivity of crystalline AlN and the influence of atomic-scale defects. *Journal of Applied Physics*, **2019**, 126, 185105	2.5	42
130	Thermal Modeling of Extreme Heat Flux Microchannel Coolers for GaN-on-SiC Semiconductor Devices. *Journal of Electronic Packaging, Transactions of the ASME*, **2016**, 138,	2	41
129	Mechanical characterization of aligned multi-walled carbon nanotube films using microfabricated resonators. *Carbon*, **2012**, 50, 347-355	10.4	41
128	Convective Performance of Nanofluids in a Laminar Thermally Developing Tube Flow. *Journal of Heat Transfer*, **2009**, 131,	1.8	39
127	Dense Vertically Aligned Copper Nanowire Composites as High Performance Thermal Interface Materials. *ACS Applied Materials & Interfaces*, **2017**, 9, 42067-42074	9.5	38
126	Temperature-dependent aggregation and diffusion in nanofluids. *International Journal of Heat and Mass Transfer*, **2011**, 54, 797-806	4.9	37
125	Influence of film thickness and cross-sectional geometry on hydrophilic microchannel condensation. *International Journal of Multiphase Flow*, **2010**, 36, 608-619	3.6	37
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118	Thermal conduction inhomogeneity of nanocrystalline diamond films by dual-side thermoreflectance. *Applied Physics Letters*, **2013**, 102, 111907	3.4	31
117	Cooling Limits for GaN HEMT Technology **2013**,		29
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115	Nanofluid Convection in Microtubes. *Journal of Heat Transfer*, **2010**, 132,	1.8	27
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110	Electrothermal Modeling and Design Strategies for Multibit Phase-Change Memory. *IEEE Transactions on Electron Devices*, **2012**, 59, 3561-3567	2.9	22
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103	Enhanced phonon scattering by nanovoids in high thermoelectric power factor polysilicon thin films. *Applied Physics Letters*, **2016**, 109, 253104	3.4	19

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101	Improving the performance of Ge2Sb2Te5 materials via nickel doping: Towards RF-compatible phase-change devices. *Applied Physics Letters*, **2018**, 113, 171903	3.4	18
100	Adiabatic and diabatic two-phase venting flow in a microchannel. *International Journal of Multiphase Flow*, **2011**, 37, 1135-1146	3.6	17
99	Integrated cooling (i-Cool) textile of heat conduction and sweat transportation for personal perspiration management. *Nature Communications*, **2021**, 12, 6122	17.4	17
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77	**2016**,		11
76	Microchannel cooling strategies for high heat flux (1 kW/cm2) power electronic applications **2017**,		11
75	Thermal characterization of GaN-on-diamond substrates for HEMT applications **2012**,		11
74	A reliability study with infrared imaging of thermoelectric modules under thermal cycling **2012**,		11
73	Uncovering Thermal and Electrical Properties of SbTe/GeTe Superlattice Films. *Nano Letters*, **2021**, 21, 5984-5990	11.5	11
72	Phase Change Dynamics and Two-Dimensional 4-Bit Memory in Ge2Sb2Te5 via Telecom-Band Encoding. *ACS Photonics*, **2020**, 7, 480-487	6.3	10
71	Thermal conduction in nanoporous copper inverse opal films **2014**,		10
70	Temperature Dependent Thermal Resistances at GaN-Substrate Interfaces in GaN Composite Substrates **2012**,		10
69	**2012**,		10
68	High-Efficiency Transient Temperature Calculations for Applications in Dynamic Thermal Management of Electronic Devices. *Journal of Electronic Packaging, Transactions of the ASME*, **2013**, 135,	2	10
67	Microthermal Stage for Electrothermal Characterization of Phase-Change Memory. *IEEE Electron Device Letters*, **2011**, 32, 952-954	4.4	10

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65	Two-Fold Reduction of Switching Current Density in Phase Change Memory Using Bi□Te□ Thermoelectric Interfacial Layer. *IEEE Electron Device Letters*, **2020**, 41, 1657-1660	4.4	10
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63	Enhanced Heat Transfer Using Microporous Copper Inverse Opals. *Journal of Electronic Packaging, Transactions of the ASME*, **2018**, 140,	2	8
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56	Thermal Conduction across Metal-Dielectric Sidewall Interfaces. *ACS Applied Materials & Interfaces*, **2017**, 9, 30100-30106	9.5	6
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53	Effects of Transient Heating on Two-Phase Flow Response in Microchannel Heat Exchangers **2009**,		6
52	Theoretical and experimental investigation of spatial temperature gradient effects on cells using a microfabricated microheater platform. *Sensors and Actuators B: Chemical*, **2009**, 143, 286-294	8.5	6
51	Experimental Investigation of Embedded Micropin-Fins for Single-Phase Heat Transfer and Pressure Drop. *Journal of Electronic Packaging, Transactions of the ASME*, **2018**, 140,	2	5
50	The Heat Conduction Renaissance **2018**,		5
49	Cross plane thermal conductance of graphene-metal interfaces **2014**,		5

48	Anisotropic and nonhomogeneous thermal conduction in 1 μm thick CVD diamond **2014**,		5
47	Effect of Resistance Drift on the Activation Energy for Crystallization in Phase Change Memory. *Japanese Journal of Applied Physics*, **2012**, 51, 02BD06	1.4	5
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43	A method for quantifying in plane permeability of porous thin films. *Journal of Colloid and Interface Science*, **2018**, 530, 667-674	9.3	4
42	A parametric study of Microporous Metal Matrix-Phase Change Material composite heat spreaders for transient thermal applications **2014**,		4
41	Thermal characterization of nanostructured superlattices of TiN/TaN: Applications as electrodes in Phase Change Memory **2014**,		4
40	Experimental considerations of CVD diamond film measurements using time domain thermoreflectance **2017**,		4
39	3D Packaging Materials Based on Graphite Nanoplatelet and Aluminum Nitride Nanocomposites **2013**,		4
38	Hydrodynamic and Thermal Performance of a Vapor-Venting Microchannel Copper Heat Exchanger **2008**,		4
37	Vapor-Venting, Micromachined Heat Exchanger for Electronics Cooling **2007**, 951		4
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30	Reply to the comment on "Figure of merit ZT, efficiency and power per W metrics for thermoelectric power generation: beyond ZT" by G. Nunes, Jr, Energy Environ. Sci., 2014, 7, DOI: 10.1039/C3EE43700K. *Energy and Environmental Science*, **2014**, 7, 3441-3442	35.4	3
29	Nonhomogeneous morphology and the elastic modulus of aligned carbon nanotube films. *Journal of Micromechanics and Microengineering*, **2015**, 25, 115023	2	3
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27	**2012**,		3
26	Decoupled thermal resistances of phase change material and their impact on PCM devices **2010**,		3
25	Temperature-Dependent Permeability of Microporous Membranes for Vapor Venting Heat Exchangers **2008**,		3
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21	Performance and Manufacturing of Silicon-Based Vapor Chambers. *Applied Mechanics Reviews*, **2021**, 73,	8.6	3
20	Copper Inverse Opal Surfaces for Enhanced Boiling Heat Transfer **2017**,		2
19	Optimization of hybrid wick structures for extreme spreading in high performance vapor chambers **2016**,		2
18	Mechanical and thermal properties of copper inverse opals for two-phase convection enhancement **2014**,		2
17	Thermal and Manufacturing Design Considerations for Silicon-Based Embedded Microchannel-Three-Dimensional Manifold Coolers: Part 2: Parametric Study of EMMCs for High Heat Flux (~1 kW/cm2) Power Electronics Cooling. *Journal of Electronic Packaging, Transactions of the ASME*, **2020**, 142,	2	2
16	Effect of Resistance Drift on the Activation Energy for Crystallization in Phase Change Memory. *Japanese Journal of Applied Physics*, **2012**, 51, 02BD06	1.4	2
15	Design and optimization of well-ordered microporous copper structure for high heat flux cooling applications. *International Journal of Heat and Mass Transfer*, **2021**, 173, 121241	4.9	2
14	Phonon thermal conduction in periodically porous silicon nanobeams **2014**,		1
13	Phase-separation of wetting fluids using nanoporous alumina membranes and micro-glass capillaries **2014**,		1

12	Thermal conductivity, anisotropy, and interface resistances of diamond on poly-AlN **2012**,		1
11	Nanoscale conformable coatings for enhanced thermal conduction of carbon nanotube films **2012**,		1
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3	Bicontinuous Mesoporous Metal Foams with Enhanced Conductivity and Tunable Pore Size and Porosity via Electrodeposition for Electrochemical and Thermal Systems. *ACS Applied Nano Materials*, **2020**, 3, 12408-12415	5.6	
2	Impact of Annealing on the Thermoelectric Properties of Ge2Sb2Te5 Films. *Materials Research Society Symposia Proceedings*, **2012**, 1490, 223-228		
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