

# Peter E Raad

## List of Publications by Year in descending order

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72  
papers

1,488  
citations

430874

18  
h-index

330143

37  
g-index

73  
all docs

73  
docs citations

73  
times ranked

1472  
citing authors

#	ARTICLE	IF	CITATIONS
1	Thermal Challenges in Next-Generation Electronic Systems. IEEE Transactions on Components and Packaging Technologies, 2008, 31, 801-815.	1.3	352
2	CCD-based thermoreflectance microscopy: principles and applications. Journal Physics D: Applied Physics, 2009, 42, 143001.	2.8	212
3	Oman Field Survey after the December 2004 Indian Ocean Tsunami. Earthquake Spectra, 2006, 22, 203-218.	3.1	85
4	Performance of Pin Fin Cast Aluminum Coldwalls, Part 1: Friction Factor Correlations. Journal of Thermophysics and Heat Transfer, 2002, 16, 389-396.	1.6	66
5	The surface marker and micro cell method. International Journal for Numerical Methods in Fluids, 1997, 25, 749-778.	1.6	54
6	GaN-On-Diamond HEMT Technology With $T_{AVG} = 176^{\circ}\text{C}$ at $P_{DC,max} = 56 \text{ W/mm}$ Measured by Transient Thermoreflectance Imaging. IEEE Electron Device Letters, 2019, 40, 881-884.	3.9	52
7	Velocity Boundary Conditions for the Simulation of Free Surface Fluid Flow. Journal of Computational Physics, 1995, 116, 262-276.	3.8	51
8	Performance of Pin Fin Cast Aluminum Coldwalls, Part 2: Colburn j-Factor Correlations. Journal of Thermophysics and Heat Transfer, 2002, 16, 397-403.	1.6	50
9	A Fractional-Diffusion Theory for Calculating Thermal Properties of Thin Films From Surface Transient Thermoreflectance Measurements. Journal of Heat Transfer, 2001, 123, 1133-1138.	2.1	43
10	Current Localization and Redistribution as the Basis of Discontinuous Current Controlled Negative Differential Resistance in $\text{NbO}_x$ . Advanced Functional Materials, 2019, 29, 1906731.	14.9	39
11	The three-dimensional Eulerian-Lagrangian marker and micro cell method for the simulation of free surface flows. Journal of Computational Physics, 2005, 203, 668-699.	3.8	38
12	Simulation of impacts of fluid free surfaces with solid boundaries. International Journal for Numerical Methods in Fluids, 1994, 19, 153-176.	1.6	37
13	Transient thermo-reflectance measurements of the thermal conductivity and interface resistance of metallized natural and isotopically-pure silicon. Microelectronics Journal, 2003, 34, 1115-1118.	2.0	30
14	The Introduction of Micro Cells to Treat Pressure in Free Surface Fluid Flow Problems. Journal of Fluids Engineering, Transactions of the ASME, 1995, 117, 683-690.	1.5	28
15	Electric Field- and Current-Induced Electroforming Modes in $\text{NbO}_x$ . ACS Applied Materials & Interfaces, 2020, 12, 8422-8428.	8.0	27
16	High-Resolution Thermoreflectance Imaging Investigation of Self-Heating in AlGaN/GaN HEMTs on Si, SiC, and Diamond Substrates. IEEE Transactions on Electron Devices, 2020, 67, 5415-5420.	3.0	24
17	Influence of the metallic absorption layer on the quality of thermal conductivity measurements by the transient thermo-reflectance method. Microelectronics Journal, 2002, 33, 697-703.	2.0	23
18	A transient self-adaptive technique for modeling thermal problems with large variations in physical scales. International Journal of Heat and Mass Transfer, 2004, 47, 3707-3720.	4.8	19

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19	Thermal characterization of embedded electronic features by an integrated system of CCD thermography and self-adaptive numerical modeling. <i>Microelectronics Journal</i> , 2008, 39, 1008-1015.	2.0	18
20	Characterization of Temperature Rise in Alternating Current Electrothermal Flow Using Thermoreflectance Method. <i>Analytical Chemistry</i> , 2019, 91, 12492-12500.	6.5	15
21	Electrothermal Evaluation of AlGaIn/GaN Membrane High Electron Mobility Transistors by Transient Thermoreflectance. <i>IEEE Journal of the Electron Devices Society</i> , 2018, 6, 922-930.	2.1	14
22	A Study of the Effect of Surface Metalization on Thermal Conductivity Measurements by the Transient Thermo-Reflectance Method. <i>Journal of Heat Transfer</i> , 2002, 124, 1009-1018.	2.1	13
23	Performance analysis of the transient thermo-reflectance method for measuring the thermal conductivity of single layer materials. <i>International Journal of Heat and Mass Transfer</i> , 2004, 47, 3233-3244.	4.8	13
24	Two-Sided Texture Effects on Ultra-Thin Wide Wedge Gas Bearings. <i>Journal of Tribology</i> , 1989, 111, 719-725.	1.9	12
25	A Chebyshev Spectral Collocation Method for the Solution of the Reynolds Equation of Lubrication. <i>Journal of Computational Physics</i> , 1993, 106, 42-51.	3.8	12
26	Design of Cast Pin Fin Coldwalls for Air-Cooled Electronics Systems. <i>Journal of Electronic Packaging, Transactions of the ASME</i> , 2004, 126, 67-73.	1.8	12
27	Design of Cast Pin Fin Coldwalls for Air-Cooled Electronics Systems. <i>Journal of Electronic Packaging, Transactions of the ASME</i> , 2004, 126, 67-73.	3.8	12
28	Thermoreflectance temperature measurements for optically emitting devices. <i>Microelectronics Journal</i> , 2014, 45, 515-520.	2.0	10
29	An Integrated Experimental and Computational System for the Thermal Characterization of Complex Three-Dimensional Submicron Electronic Devices. <i>IEEE Transactions on Components and Packaging Technologies</i> , 2007, 30, 597-603.	1.3	9
30	Comparisons of compact and classical finite difference solutions of stiff problems on nonuniform grids. <i>Computers and Fluids</i> , 1999, 28, 361-384.	2.5	8
31	Oscillations in high-order finite difference solutions of stiff problems on non-uniform grids. <i>International Journal for Numerical Methods in Fluids</i> , 1999, 30, 939-956.	1.6	7
32	Thermal Performance Improvement of GaN-on-Diamond High Electron Mobility Transistors. , 2018, , .		7
33	Thermoreflectance Temperature Mapping of Ga <sub>2</sub> O <sub>3</sub> Schottky Barrier Diodes. <i>ECS Transactions</i> , 2019, 89, 3-7.	0.5	7
34	Blink-Induced Motion of a Gas Permeable Contact Lens. <i>Optometry and Vision Science</i> , 1995, 72, 378-386.	1.2	6
35	Open Channel Flow Over Submerged Obstructions: An Experimental and Numerical Study. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 1997, 119, 906-910.	1.5	6
36	Electric-Based Thermal Characterization of GaN Technologies Affected by Trapping Effects. <i>IEEE Transactions on Electron Devices</i> , 2020, 67, 1952-1958.	3.0	6

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37	Thermal conductivity of isotopically enriched silicon carbide. , 2013, , .		5
38	Thermal Conductivity of Amorphous NbO <sub>x</sub> Thin Films and Its Effect on Volatile Memristive Switching. ACS Applied Materials & Interfaces, 2022, 14, 21270-21277.	8.0	5
39	An implicit multidomain spectral collocation method for stiff highly non-linear fluid dynamics problems. Computer Methods in Applied Mechanics and Engineering, 1995, 120, 163-182.	6.6	4
40	Thermal Characterization of Pulse-Activated Microelectronic Devices by Thermoreflectance-Based Surface Temperature Scanning. , 2005, , 1413.		4
41	Non-Contact Surface Temperature Measurements Coupled with Ultrafast Real-Time Computation. IEEE Semiconductor Thermal Measurement and Management Symposium, 2007, , .	0.0	4
42	Direct Observation of Heat Transport in Plural AlN Films Using Thermal Imaging and Transient Thermal Reflectance Method. Electrochemical and Solid-State Letters, 2011, 14, H184.	2.2	4
43	Full 3D Thermal Simulation of GaN HEMT using Ultra-Fast Self-Adaptive Computations Driven by Experimentally Determined Thermal Maps. , 2018, , .		4
44	(Invited) Coupled Experimental and Numerical Investigation of High-Voltage GaN HEMTs. ECS Transactions, 2019, 89, 11-16.	0.5	4
45	Effects of Three-Dimensional Texture on the Performance of Ultrathin Gas Bearings. , 1995, , 69-96.		4
46	Thermal conductivity measurements of novel SOI films using submicron thermography and transient thermoreflectance. , 2012, , .		3
47	Measurement of thermal conductivity of nanofluids and thermal interface materials using the laser-based transient thermoreflectance method. , 2013, , .		3
48	Quantifying substrate removal induced electrothermal degradation in AlGaN/GaN HEMTs. , 2017, , .		3
49	Thermal Modeling and Experimental Validation of Heat Sink Design for Passive Cooling of BEOL IC Structures. , 2018, , .		3
50	Temperature dependence of the thermoreflectance coefficient of gold by the use of a phase-locked single-point measurement approach. , 2018, , .		3
51	Standardized Heat Spreader Design for Passive Cooling of Interconnects in the BEOL of ICs. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2020, 10, 1010-1019.	2.5	3
52	An Implicit Multidomain Spectral Collocation Method for the Simulation of Gas Bearings Between Textured Surfaces. Journal of Tribology, 1996, 118, 783-793.	1.9	2
53	(Invited) Comparison of High Voltage, Vertical Geometry Ga <sub>2</sub> O <sub>3</sub> Rectifiers with GaN and SiC. ECS Transactions, 2019, 92, 15-24.	0.5	2
54	The surface marker and micro cell method. International Journal for Numerical Methods in Fluids, 1997, 25, 749-778.	1.6	2

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55	A mapped, factored-implicit scheme for the computation of duct and far-field acoustics. AIAA Journal, 1985, 23, 629-631.	2.6	1
56	A Mapped Finite Difference Study of Noise Propagation in Nonuniform Ducts With Mean Flow. Journal of Vibration and Acoustics, Transactions of the ASME, 1987, 109, 372-380.	1.6	1
57	Parallelization of the Factored Implicit Finite Difference Technique. AIAA Journal, 1993, 31, 1725-1727.	2.6	1
58	New SOI Substrate with High Thermal Conductivity for High Performance Mixed-Signal Applications. ECS Transactions, 2010, 33, 145-151.	0.5	1
59	Thermal Conductivity Measurements of Ultra-Thin Amorphous Poly(Methyl Methacrylate) (PMMA) Films. , 2013, , .		1
60	Thermal investigations of integrated circuits in systems at THERMINIC 2012. Microelectronics Journal, 2014, 45, 483.	2.0	1
61	Thermal Characterization of Si BEOL Microelectronic Structures. , 2018, , .		1
62	Assessment of CMP Fill Pattern Effect on the Thermal Performance of Interconnects in Integrated Circuits BEOL. , 2019, , .		1
63	Compact 3D Thermal Model for VLSI and ULSI Interconnect Network Reliability Verification. IEEE Transactions on Device and Materials Reliability, 2021, 21, 240-251.	2.0	1
64	A Study of the Effect of Surface Metalization on the Thermal Conductivity Measurements by the Transient Thermo-Reflectance Method. , 2002, , 179.		0
65	Influence of transparent surface layer on effective thermorefectance coefficient of typical stacked electronic structures. , 2007, , .		0
66	Thermal mapping of Delphi thermal test dies. , 2011, , .		0
67	Coupled Dynamics of a Solid Piercing a Fluid Free Surface. , 2002, , .		0
68	An Eulerian-Lagrangian Marker and Micro Cell Method for Simulating Fluid Interaction with Solid/Porous Bodies. Fluid Mechanics and Its Applications, 2003, , 439-452.	0.2	0
69	High-voltage high-current vertical geometry Ga2O3 rectifiers. , 2020, , .		0
70	High Resolution Thermorefectance Imaging and Numerical Modeling of Self-Heating in GaN HEMT on SiC. , 2020, , .		0
71	Thermal effects in Ga2O3 rectifiers and MOSFETs borrowing from GaN. , 2022, , 441-467.		0
72	The transient thermorefectance approach for high-resolution temperature mapping of GaN devices. , 2022, , 231-250.		0