

Mehdi Asheghi

List of Publications by Year in descending order

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92
papers

3,365
citations

257450

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155660

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all docs

92
docs citations

92
times ranked

3548
citing authors

#	ARTICLE	IF	CITATIONS
1	Multiobjective Optimization of Graded, Hybrid Micropillar Wicks for Capillary-Fed Evaporation. <i>Langmuir</i> , 2022, 38, 221-230.	3.5	2
2	Non-Contact Mass Density and Thermal Conductivity Measurements of Organic Thin Films Using Frequency-Domain Thermoreflectance. <i>Advanced Materials Interfaces</i> , 2022, 9, .	3.7	4
3	Performance and Manufacturing of Silicon-Based Vapor Chambers. <i>Applied Mechanics Reviews</i> , 2021, 73, .	10.1	14
4	Thermal Interface Enhancement via Inclusion of an Adhesive Layer Using Plasma-Enhanced Atomic Layer Deposition. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 21905-21913.	8.0	5
5	Simultaneous thickness and thermal conductivity measurements of thinned silicon from 100 nm to 17 μm. <i>Applied Physics Letters</i> , 2021, 118, .	3.3	5
6	Uncovering Thermal and Electrical Properties of Sb ₂ Te ₃ /GeTe Superlattice Films. <i>Nano Letters</i> , 2021, 21, 5984-5990.	9.1	31
7	Thermal Characterization of Metal-Oxide Interfaces Using Time-Domain Thermoreflectance with Nanograting Transducers. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 58059-58065.	8.0	7
8	Mechanical Design and Reliability of Gold-Tin Eutectic Bonding for Silicon-based Thermal Management Devices. , 2020, , .		0
9	Considerations and Challenges for Large Area Embedded Micro-channels with 3D Manifold in High Heat Flux Power Electronics Applications. , 2020, , .		4
10	Microfabrication Challenges for Silicon-based Large Area (>500 mm ²) 3D-manifolded Embedded Microcooler Devices for High Heat Flux Removal. , 2020, , .		2
11	Tunable Dielectric and Thermal Properties of Oxide Dielectrics via Substrate Biasing in Plasma-Enhanced Atomic Layer Deposition. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 44912-44918.	8.0	8
12	Tungsten-doped Ge ₂ Sb ₂ Te ₅ phase change material for high-speed optical switching devices. <i>Applied Physics Letters</i> , 2020, 116, .	3.3	16
13	Thermal and Manufacturing Design Considerations for Silicon-Based Embedded Microchannel-Three-Dimensional Manifold Coolers”Part 2: Parametric Study of EMMCs for High Heat Flux (1/4 1 kW/cm ²) Power Electronics Cooling. <i>Journal of Electronic Packaging, Transactions of the ASME</i> , 2020, 142, .	1.8	2
14	Thermal and Manufacturing Design Considerations for Silicon-Based Embedded Microchannel Three-Dimensional-Manifold Coolers (EMMC)”Part 3: Addressing Challenges in Laser Micromachining-Based Manufacturing of Three-Dimensional-Manifolded Microcooler Devices. <i>Journal of Electronic Packaging, Transactions of the ASME</i> , 2020, 142, .	1.8	2
15	Thermal and Manufacturing Design Considerations for Silicon-Based Embedded Microchannel-3D Manifold Coolers (EMMCs): Part 1”Experimental Study of Single-Phase Cooling Performance With R-245fa. <i>Journal of Electronic Packaging, Transactions of the ASME</i> , 2020, 142, .	1.8	3
16	Understanding the switching mechanism of interfacial phase change memory. <i>Journal of Applied Physics</i> , 2019, 125, .	2.5	35
17	Quasi-Ballistic Thermal Transport Across MoS ₂ Thin Films. <i>Nano Letters</i> , 2019, 19, 2434-2442.	9.1	61
18	Tunable, passive thermal regulation through liquid to vapor phase change. <i>Applied Physics Letters</i> , 2019, 115, .	3.3	8

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19	Experimental Characterization of Microfabricated Thermoelectric Energy Harvesters for Smart Sensor and Wearable Applications. <i>Advanced Materials Technologies</i> , 2018, 3, 1700383.	5.8	17
20	Direct Visualization of Thermal Conductivity Suppression Due to Enhanced Phonon Scattering Near Individual Grain Boundaries. <i>Nano Letters</i> , 2018, 18, 3466-3472.	9.1	74
21	Modular heat sink for chip-scale GaN transistors in multilevel converters. , 2018, , .		8
22	Experimental Investigation of Embedded Micropin-Fins for Single-Phase Heat Transfer and Pressure Drop. <i>Journal of Electronic Packaging, Transactions of the ASME</i> , 2018, 140, .	1.8	14
23	Thermal Management Research " from Power Electronics to Portables. , 2018, , .		0
24	Improving the performance of Ge ₂ Sb ₂ Te ₅ materials via nickel doping: Towards RF-compatible phase-change devices. <i>Applied Physics Letters</i> , 2018, 113, 171903.	3.3	34
25	The Heat Conduction Renaissance. , 2018, , .		5
26	Enhanced Heat Transfer Using Microporous Copper Inverse Opals. <i>Journal of Electronic Packaging, Transactions of the ASME</i> , 2018, 140, .	1.8	11
27	Tailoring Permeability of Microporous Copper Structures through Template Sintering. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 30487-30494.	8.0	18
28	Enhanced Capillary-Driven Boiling in Copper Inverse Opals via Template Sintering. <i>Advanced Functional Materials</i> , 2018, 28, 1803689.	14.9	46
29	A method for quantifying in plane permeability of porous thin films. <i>Journal of Colloid and Interface Science</i> , 2018, 530, 667-674.	9.4	5
30	Phonon conduction in GaN-diamond composite substrates. <i>Journal of Applied Physics</i> , 2017, 121, .	2.5	62
31	Enhanced Thermal Conduction Through Nanostructured Interfaces. <i>Nanoscale and Microscale Thermophysical Engineering</i> , 2017, 21, 134-144.	2.6	18
32	Phonon conduction in silicon nanobeams. <i>Applied Physics Letters</i> , 2017, 110, .	3.3	22
33	Extreme Two-Phase Cooling from Laser-Etched Diamond and Conformal, Template-Fabricated Microporous Copper. <i>Advanced Functional Materials</i> , 2017, 27, 1703265.	14.9	83
34	Microchannel cooling strategies for high heat flux (1 kW/cm ²) power electronic applications. , 2017, , .		23
35	Phonon Conduction in Silicon Nanobeam Labyrinths. <i>Scientific Reports</i> , 2017, 7, 6233.	3.3	28
36	Thermal conductivity measurements on suspended diamond membranes using picosecond and femtosecond time-domain thermoreflectance. , 2017, , .		10

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37	Fabrication and Characterization of Bi ₂ Te ₃ -Based Chip-Scale Thermoelectric Energy Harvesting Devices. Journal of Electronic Materials, 2017, 46, 2844-2846.	2.2	14
38	Enhanced phonon scattering by nanovoids in high thermoelectric power factor polysilicon thin films. Applied Physics Letters, 2016, 109, .	3.3	20
39	Special Section on InterPACK 2015. Journal of Electronic Packaging, Transactions of the ASME, 2016, 138, .	1.8	0
40	Analytical model of graphene-enabled ultra-low power phase change memory. , 2016, , .		2
41	Characterization of the Thermal Conductivity of CVD Diamond for GaN-on-Diamond Devices. , 2016, , .		20
42	Optimization of hybrid wick structures for extreme spreading in high performance vapor chambers. , 2016, , .		3
43	Thermal Modeling of Extreme Heat Flux Microchannel Coolers for GaN-on-SiC Semiconductor Devices. Journal of Electronic Packaging, Transactions of the ASME, 2016, 138, .	1.8	60
44	Cross-Plane Phonon Conduction in Polycrystalline Silicon Films. Journal of Heat Transfer, 2015, 137, .	2.1	8
45	Chip-scale thermal energy harvester using Bi ₂ Te ₃ . , 2015, , .		6
46	Thermal characterization and analysis of microliter liquid volumes using the three-omega method. Review of Scientific Instruments, 2015, 86, 024901.	1.3	14
47	Fundamental Cooling Limits for High Power Density Gallium Nitride Electronics. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2015, 5, 737-744.	2.5	100
48	Microfluidic Heat Exchangers for High Power Density GaN on SiC. , 2014, , .		5
49	Thermal Interface Resistance Measurements for GaN-on-Diamond Composite Substrates. , 2014, , .		13
50	Phonon scattering in strained transition layers for GaN heteroepitaxy. Physical Review B, 2014, 89, .	3.2	89
51	Mechanical and thermal properties of copper inverse opals for two-phase convection enhancement. , 2014, , .		3
52	A parametric study of Microporous Metal Matrix-Phase Change Material composite heat spreaders for transient thermal applications. , 2014, , .		7
53	Anisotropic and nonhomogeneous thermal conduction in 1 µm thick CVD diamond. , 2014, , .		5
54	Phase-separation of wetting fluids using nanoporous alumina membranes and micro-glass capillaries. , 2014, , .		3

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55	Thermal conduction normal to thin silicon nitride films on diamond and GaN. , 2014, , .		8
56	Cooling Limits for GaN HEMT Technology. , 2013, , .		37
57	Phonon and electron transport through Ge ₂ Sb ₂ Te ₅ films and interfaces bounded by metals. Applied Physics Letters, 2013, 102, .	3.3	68
58	Improved Thermal Interfaces of GaN-Diamond Composite Substrates for HEMT Applications. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2013, 3, 79-85.	2.5	91
59	Thermal conduction inhomogeneity of nanocrystalline diamond films by dual-side thermorefectance. Applied Physics Letters, 2013, 102, .	3.3	37
60	Phonon Conduction in Periodically Porous Silicon Nanobridges. Nanoscale and Microscale Thermophysical Engineering, 2012, 16, 199-219.	2.6	54
61	Phase and thickness dependent modulus of Ge ₂ Sb ₂ Te ₅ films down to 25%nm thickness. Applied Physics Letters, 2012, 100, 161905.	3.3	27
62	Electrothermal Modeling and Design Strategies for Multibit Phase-Change Memory. IEEE Transactions on Electron Devices, 2012, 59, 3561-3567.	3.0	28
63	Calibration methodology for interposing liquid coolants for infrared thermography of microprocessors. , 2012, , .		0
64	Phase purity and the thermoelectric properties of Ge ₂ Sb ₂ Te ₅ films down to 25%nm thickness. Journal of Applied Physics, 2012, 112, .	2.5	49
65	Thermal conduction properties of Mo/Si multilayers for extreme ultraviolet optics. Journal of Applied Physics, 2012, 112, 083504.	2.5	20
66	Temperature Dependent Thermal Resistances at GaN-Substrate Interfaces in GaN Composite Substrates. , 2012, , .		15
67	Thermal conductivity, anisotropy, and interface resistances of diamond on poly-AlN. , 2012, , .		2
68	Thermal characterization of GaN-on-diamond substrates for HEMT applications. , 2012, , .		12
69	A reliability study with infrared imaging of thermoelectric modules under thermal cycling. , 2012, , .		13
70	Nanoscale conformable coatings for enhanced thermal conduction of carbon nanotube films. , 2012, , .		2
71	Low Thermal Resistances at GaN-SiC Interfaces for HEMT Technology. IEEE Electron Device Letters, 2012, 33, 378-380.	3.9	82
72	Impact of Annealing on the Thermoelectric Properties of Ge ₂ Sb ₂ Te ₅ Films. Materials Research Society Symposia Proceedings, 2012, 1490, 223-228.	0.1	0

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91	Rapid Thermal Characterization of the High Thermal Conductivity Film Layers by the Film-on Substrate Technique. Journal of Electronic Packaging, Transactions of the ASME, 2006, 128, 125-129.	1.8	0
92	Comparison of thermal response of GMR sensor subjected to HBM and CDM transients. , 2004, , .		1