Pawel Keblinski

List of Publications by Year
in descending order

137 papers	18,821 citations	19657 61 h-index	14208 128 g-index
137 all docs	137 docs citations	137 times ranked	13309 citing authors

#	Article	IF	Citations
1	Mechanisms of heat flow in suspensions of nano-sized particles (nanofluids). International Journal of Heat and Mass Transfer, 2002, 45, 855-863.	4.8	1,879
2	Comparison of atomic-level simulation methods for computing thermal conductivity. Physical Review B, 2002, 65, .	3.2	1,315
3	Nanoscale thermal transport. II. 2003â€"2012. Applied Physics Reviews, 2014, 1, 011305.	11.3	1,277
4	Interfacial heat flow in carbon nanotube suspensions. Nature Materials, 2003, 2, 731-734.	27.5	1,027
5	A benchmark study on the thermal conductivity of nanofluids. Journal of Applied Physics, 2009, 106, .	2.5	897
6	Exact method for the simulation of Coulombic systems by spherically truncated, pairwise râˆ'1 summation. Journal of Chemical Physics, 1999, 110, 8254-8282.	3.0	809
7	THERMAL TRANSPORT IN NANOFLUIDS. Annual Review of Materials Research, 2004, 34, 219-246.	9.3	735
8	Nanofluids for thermal transport. Materials Today, 2005, 8, 36-44.	14.2	688
9	Role of thermal boundary resistance on the heat flow in carbon-nanotube composites. Journal of Applied Physics, 2004, 95, 8136-8144.	2.5	474
10	Viscoelasticity in carbon nanotube composites. Nature Materials, 2005, 4, 134-137.	27.5	443
11	Effect of liquid layering at the liquidâ€"solid interface on thermal transport. International Journal of Heat and Mass Transfer, 2004, 47, 4277-4284.	4.8	423
12	Effect of aggregation and interfacial thermal resistance on thermal conductivity of nanocomposites and colloidal nanofluids. International Journal of Heat and Mass Transfer, 2008, 51, 1431-1438.	4.8	405
13	Role of Brownian motion hydrodynamics on nanofluid thermal conductivity. Applied Physics Letters, 2006, 88, 093116.	3.3	361
14	Thermal conductance of nanofluids: is the controversy over?. Journal of Nanoparticle Research, 2008, 10, 1089-1097.	1.9	359
15	Effect of aggregation on thermal conduction in colloidal nanofluids. Applied Physics Letters, 2006, 89, 143119.	3.3	351
16	Thermal conductivity of graphene ribbons from equilibrium molecular dynamics: Effect of ribbon width, edge roughness, and hydrogen termination. Applied Physics Letters, 2010, 96, .	3.3	306
17	Phonon wave-packet dynamics at semiconductor interfaces by molecular-dynamics simulation. Applied Physics Letters, 2002, 80, 2484-2486.	3.3	290
18	Turning Carbon Nanotubes from Exceptional Heat Conductors into Insulators. Physical Review Letters, 2009, 102, 105901.	7.8	279

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19	Effect of chemical functionalization on thermal transport of carbon nanotube composites. Applied Physics Letters, 2004, 85, 2229-2231.	3.3	272
20	How Wetting and Adhesion Affect Thermal Conductance of a Range of Hydrophobic to Hydrophilic Aqueous Interfaces. Physical Review Letters, 2009, 102, 156101.	7.8	251
21	Temperature dependence of radial breathing mode Raman frequency of single-walled carbon nanotubes. Physical Review B, 2002, 66, .	3.2	250
22	Bonding-induced thermal conductance enhancement at inorganic heterointerfaces usingÂnanomolecular monolayers. Nature Materials, 2013, 12, 118-122.	27.5	223
23	Kapitza conductance and phonon scattering at grain boundaries by simulation. Journal of Applied Physics, 2004, 95, 6082-6091.	2.5	222
24	Two regimes of thermal resistance at a liquidâ€“solid interface. Journal of Chemical Physics, 2003, 118, 337-339.	3.0	199
25	Thermal conductivity enhancement of paraffins by increasing the alignment of molecules through adding CNT/graphene. International Journal of Heat and Mass Transfer, 2013, 58, 209-216.	4.8	190
26	Heat transfer from nanoparticles: A corresponding state analysis. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 15113-15118.	7.1	186
27	Thermal expansion of carbon structures. Physical Review B, 2003, 68, .	3.2	185
28	Kapitza conductance of siliconâ€“amorphous polyethylene interfaces by molecular dynamics simulations. Physical Review B, 2009, 79, .	3.2	165
29	Thermal transport and grain boundary conductance in ultrananocrystalline diamond thin films. Journal of Applied Physics, 2006, 99, 114301.	2.5	139
30	Determination of interfacial thermal resistance at the nanoscale. Physical Review B, 2011, 83, .	3.2	136
31	Amorphous structure of grain boundaries and grain junctions in nanocrystalline silicon by molecular-dynamics simulation. Acta Materialia, 1997, 45, 987-998.	7.9	131
32	Self-diffusion in high-angle fcc metal grain boundaries by molecular dynamics simulation. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1999, 79, 2735-2761.	0.6	109
33	Pressure tuning of the thermal conductivity of the layered muscovite crystal. Physical Review B, 2009, 80, .	3.2	103
34	Vibrations and thermal transport in nanocrystalline silicon. Physical Review B, 2006, 74, .	3.2	102
35	Molecular Underpinnings of the Mechanical Reinforcement in Polymer Nanocomposites. Macromolecules, 2007, 40, 4059-4067.	4.8	101
36	Thermal Resistance of Nanoscopic Liquidâˆ'Liquid Interfaces:â€‰ Dependence on Chemistry and Molecular Architecture. Nano Letters, 2005, 5, 2225-2231.	9.1	93

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37	Molecular dynamics study of screening in ionic fluids. Journal of Chemical Physics, 2000, 113, 282-291.	3.0	91
38	Thermal transport in graphene-based nanocomposite. Journal of Applied Physics, 2011, 110, .	2.5	91
39	Interfacial thermal transport in atomic junctions. Physical Review B, 2011, 83, .	3.2	90
40	Pressure tuning of the thermal conductance of weak interfaces. Physical Review B, 2011, 84, .	3.2	89
41	Effect of crosslink formation on heat conduction in amorphous polymers. Journal of Applied Physics, 2013, 114, .	2.5	89
42	Molecular-Dynamics Simulation of Grain-Boundary Diffusion Creep. Journal of Materials Science, 1998, 6, 205-212.	1.2	88
43	Thermal rectification at silicon-amorphous polyethylene interface. Applied Physics Letters, 2008, 92, 211908.	3.3	88
44	Predicting the thermal conductivity of inorganic and polymeric glasses: The role of anharmonicity. Journal of Applied Physics, 2009, 105, .	2.5	88
45	Thermal Transport across a Substrateâ€“Thin-Film Interface: Effects of Film Thickness and Surface Roughness. Physical Review Letters, 2014, 113, 065901.	7.8	88
46	Testing the minimum thermal conductivity model for amorphous polymers using high pressure. Physical Review B, 2011, 83, .	3.2	87
47	Structure and physical properties of paracrystalline atomistic models of amorphous silicon. Journal of Applied Physics, 2001, 90, 4437-4451.	2.5	85
48	Role of bonding and coordination in the atomic structure and energy of diamond and silicon grain boundaries. Journal of Materials Research, 1998, 13, 2077-2100.	2.6	81
49	Critical heat flux around strongly heated nanoparticles. Physical Review E, 2009, 79, 021404.	2.1	81
50	Heat transfer mechanism across few-layer graphene by molecular dynamics. Physical Review B, 2013, 88, .	3.2	80
51	Charge Distribution and Stability of Charged Carbon Nanotubes. Physical Review Letters, 2002, 89, 255503.	7.8	79
52	Phonon interference at self-assembled monolayer interfaces: Molecular dynamics simulations. Physical Review B, 2010, 81, .	3.2	79
53	Role of wetting and nanoscale roughness on thermal conductance at liquid-solid interface. Applied Physics Letters, 2011, 99, .	3.3	78
54	How Chemistry, Nanoscale Roughness, and the Direction of Heat Flow Affect Thermal Conductance of Solidâ€“Water Interfaces. Industrial & Engineering Chemistry Research, 2012, 51, 1767-1773.	3.7	78

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55	Molecular simulation of steady-state evaporation and condensation: Validity of the Schrage relationships. International Journal of Heat and Mass Transfer, 2017, 114, 105-114.	4.8	77
56	Nanowire-filled polymer composites with ultrahigh thermal conductivity. Applied Physics Letters, 2013, 102, .	3.3	74
57	On the Thermodynamic Stability of Amorphous Intergranular Films in Covalent Materials. Journal of the American Ceramic Society, 1997, 80, 717-732.	3.8	72
58	Molecular dynamics simulations of heat and momentum transfer at a solidâ€"fluid interface: Relationship between thermal and velocity slip. International Journal of Heat and Mass Transfer, 2006, 49, 3401-3407.	4.8	72
59	Molecular dynamics simulation of interfacial thermal conductance between silicon and amorphous polyethylene. Applied Physics Letters, 2007, 91, .	3.3	71
60	Nonequilibrium molecular dynamics simulation of the in-plane thermal conductivity of superlattices with rough interfaces. Physical Review B, 2009, 79, .	3.2	69
61	Bonding and pressure-tunable interfacial thermal conductance. Physical Review B, 2011, 84, .	3.2	65
62	Equilibrium molecular dynamics determination of thermal conductivity for multi-component systems. Journal of Applied Physics, 2012, 112, .	2.5	61
63	Phonon Transport through Point Contacts between Graphitic Nanomaterials. Physical Review Letters, 2014, 112, .	7.8	60
64	Inter-tube thermal conductance in carbon nanotubes arrays and bundles: Effects of contact area and pressure. Applied Physics Letters, 2012, 100, .	3.3	59
65	Improvement in thermal conductivity of paraffin by adding high aspect-ratio carbon-based nano-fillers. Physics Letters, Section A: General, Atomic and Solid State Physics, 2013, 377, 1358-1361.	2.1	59
66	Contact resistance in percolating networks. Physical Review B, 2004, 69, .	3.2	56
67	Coalescence-induced jumping of nanoscale droplets on super-hydrophobic surfaces. Applied Physics Letters, 2015, 107, .	3.3	55
68	Cross-plane thermal conductivity of superlattices with rough interfaces using equilibrium and non-equilibrium molecular dynamics. International Journal of Heat and Mass Transfer, 2011, 54, 2014-2020.	4.8	54
69	Thermal conductance across grain boundaries in diamond from molecular dynamics simulation. Journal of Applied Physics, 2007, 102, 063503.	2.5	47
70	Molecular dynamics investigation of nanoscale cavitation dynamics. Journal of Chemical Physics, 2014, 141, 234508.	3.0	46
71	Thermodynamic behavior of a model covalent material described by the environment-dependent interatomic potential. Physical Review B, 2002, 66, .	3.2	43
72	A proof for insignificant effect of Brownian motion-induced micro-convection on thermal conductivity of nanofluids by utilizing molecular dynamics simulations. Journal of Applied Physics, 2013, 113, .	2.5	43

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73	Finite-size effects on molecular dynamics interfacial thermal-resistance predictions. Physical Review B, 2014, 90, .	3.2	43
74	Equilibrium and nonequilibrium molecular dynamics simulations of thermal conductance at solid-gas interfaces. Physical Review E, 2013, 87, 022119.	2.1	41
75	Hydrodynamic field around a Brownian particle. Physical Review E, 2006, 73, 010502.	2.1	35
76	Effect of chain conformation in the phonon transport across a Si-polyethylene single-molecule covalent junction. Journal of Applied Physics, 2011, 109, .	2.5	34
77	Strong frequency dependence of dynamical coupling between protein and water. Journal of Chemical Physics, 2008, 129, 155105.	3.0	33
78	Multifold Increases in Thermal Conductivity of Polymer Nanocomposites through Microwave Welding of Metal Nanowire Fillers. Advanced Materials Interfaces, 2015, 2, 1500186.	3.7	33
79	Molecular simulation of steady-state evaporation and condensation in the presence of a non-condensable gas. Journal of Chemical Physics, 2018, 148, 064708.	3.0	33
80	Improvement of heat transfer efficiency at solid-gas interfaces by self-assembled monolayers. Applied Physics Letters, 2013, 102, 061907.	3.3	31
81	A quantitative measure of medium-range order in amorphous materials from transmission electron micrographs. Journal of Physics Condensed Matter, 2003, 15, S2425-S2435.	1.8	28
82	Carbon Nanotubes with Graphitic Wings. Advanced Materials, 2004, 16, 610-613.	21.0	28
83	A molecular dynamics study of transient evaporation and condensation. International Journal of Heat and Mass Transfer, 2020, 149, 119152.	4.8	28
84	One-dimensional phonon effects in direct molecular dynamics method for thermal conductivity determination. Journal of Applied Physics, 2011, 110, .	2.5	24
85	Investigating the validity of Schrage relationships for water using molecular dynamics simulations. Journal of Chemical Physics, 2020, 153, 124505.	3.0	21
86	Effect of High-Temperature Structure and Diffusion on Grain-Boundary Diffusion Creep in fcc Metals. Journal of Materials Science, 2003, 11, 111-120.	1.2	20
87	Interfacial thermal conductivity: Insights from atomic level simulation. Journal of Materials Science, 2005, 40, 3143-3148.	3.7	20
88	Thermal conductivity of carbon nanotube cross-bar structures. Nanotechnology, 2010, 21, 475704.	2.6	18
89	Slip length crossover on a graphene surface. Journal of Chemical Physics, 2015, 142, 134701.	3.0	18
90	Molecular simulation of steady-state evaporation and condensation of water in air. International Journal of Heat and Mass Transfer, 2022, 184, 122285.	4.8	18

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91	Title is missing!. Journal of Materials Science, 1999, 7, 15-31.	1.2	17
92	Density fluctuation correlation length in polymer fluids. Journal of Chemical Physics, 2003, 119, 7599-7603.	3.0	17
93	Ballistic vs. diffusive heat transfer across nanoscopic films of layered crystals. Journal of Applied Physics, 2014, 115, .	2.5	17
94	Continuum and molecular-dynamics simulation of nanodroplet collisions. Physical Review E, 2016, 93, 053104.	2.1	17
95	Gibbs Adsorption Impact on a Nanodroplet Shape: Modification of Youngâ€“Laplace Equation. Journal of Physical Chemistry B, 2018, 122, 3176-3183.	2.6	15
96	Stochasticity in materials structure, properties, and processingâ€"A review. Applied Physics Reviews, 2018, 5, .	11.3	15
97	Thermal relaxation mechanism and role of chemical functionalization in fullerene solutions. Journal of Chemical Physics, 2006, 124, 014702.	3.0	14
98	Medium range order and the radial distribution function. Journal of Non-Crystalline Solids, 2006, 352, 116-122.	3.1	13
99	Curvature induced phase stability of an intensely heated liquid. Journal of Chemical Physics, 2014, 140, 234506.	3.0	13
100	Viscoelastic damping in crystalline composites: A molecular dynamics study. Composites Part B: Engineering, 2016, 93, 273-279.	12.0	13
101	Commonalities in frequency-dependent viscoelastic damping in glasses in the MHz to THz regime. Journal of Applied Physics, 2017, 122, .	2.5	12
102	Structural vs. compositional disorder in thermal conductivity reduction of SiGe alloys. Journal of Applied Physics, 2017, 122, .	2.5	11
103	Phonon-defect scattering in doped silicon by molecular dynamics simulation. Journal of Applied Physics, 2008, 104, 024905.	2.5	10
104	Nonlinear Electronâ€Lattice Interactions in a Wurtzite Semiconductor Enabled via Strongly Correlated Oxide. Advanced Materials, 2016, 28, 8975-8982.	21.0	10
105	Phonon interference in crystalline and amorphous confined nanoscopic films. Journal of Applied Physics, 2017, 121, .	2.5	10
106	Modeling high-temperature diffusion of gases in micro and mesoporous amorphous carbon. Journal of Chemical Physics, 2015, 143, 084701.	3.0	9
107	Sound attenuation in amorphous silica at frequencies near the boson peak. Physical Review B, 2016, 93, .	3.2	9
108	Viscoelastic and dynamic properties of polymer grafted nanocomposites with high glass transition temperature graft chains. Journal of Applied Physics, 2019, 126, .	2.5	9

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109	Interfacial thermal conductance between multi-layer graphene sheets and solid/liquid octadecane: A molecular dynamics study. Journal of Energy Storage, 2021, 37, 102469.	8.1	9
110	Liquid Phase Stability Under an Extreme Temperature Gradient. Physical Review Letters, 2013, 111, 225701.	7.8	8
111	Frequency-dependent mechanical damping in alloys. Physical Review B, 2017, 95, .	3.2	8
112	Thermal Conductivity of Nanofluids. Topics in Applied Physics, 2009, , 213-221.	0.8	7
113	Viscoelastic and Dynamic Properties of Well-Mixed and Phase-Separated Binary Polymer Blends: A Molecular Dynamics Simulation Study. Macromolecules, 2017, 50, 6293-6302.	4.8	7
114	Mass accommodation at a high-velocity water liquid-vapor interface. Journal of Chemical Physics, 2019, 150, 154705.	3.0	7
115	Effect of interfacial interactions and nanoscale confinement on octane melting. Journal of Applied Physics, 2012, 111, .	2.5	6
116	Gating heat transport by manipulating convection in a magnetic nanofluid. Applied Physics Letters, 2013, 102, .	3.3	6
117	Thermal transport dynamics in active heat transfer fluids (AHTF). Journal of Applied Physics, 2021, 129, 174702.	2.5	6
118	Thermodynamics and Kinetics of Melting and Growth of Crystalline Silicon Clusters. Materials Research Society Symposia Proceedings, 1998, 536, 311.	0.1	5
119	Interfacial thermal conductance-rheology nexus in metal-contacted nanocomposites. Applied Physics Letters, 2013, 103, .	3.3	5
120	Viscosity calculation of a nanoparticle suspension confined in nanochannels. Physical Review E, 2012, 86, 036313.	2.1	4
121	Modeling of Heat Transport in Polymers and Their Nanocomposites. , 2020, , 975-997.		4
122	Damping and Stiffness Enhancement in Composite Systems with Carbon Nanotubes Films. Materials Research Society Symposia Proceedings, 2002, 740, 1.	0.1	3
123	Using vibrational mode analysis for predicting the coefficient of thermal expansion of amorphous polymers. Journal of Polymer Science, Part B: Polymer Physics, 2009, 47, 2114-2121.	2.1	3
124	On the applicability of continuum scale models for ultrafast nanoscale liquid-vapor phase change. International Journal of Multiphase Flow, 2021, 135, 103508.	3.4	2
125	Viscoelastic bandgap in multilayers of inorganicâ€“organic nanolayer interfaces. Scientific Reports, 2022, 12, .	3.3	2
126	Atomistic Simulation of Nanocrystalline Materials. Materials Research Society Symposia Proceedings, 1995, 400, 115.	0.1	1

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127	Quantum Dots from Carbon Nanotube Junctions. Materials Research Society Symposia Proceedings, 2003, 789, 217.	0.1	1
128	Using pressure to probe thermodynamic anomalies in tetrahedrally-bonded materials. Journal of Applied Physics, 2019, 126, .	2.5	1
129	High Temperature Structure and Properties of Grain Boundaries - Insights Obtained from Atomic Level Simulations. Acta Physica Polonica A, 2002, 102, 123-134.	0.5	1
130	Structural Disorder and Localized Gap States in Silicon Grain Boundaries from a Tight-Binding Model. Materials Research Society Symposia Proceedings, 1997, 491, 513.	0.1	0
131	Comparison of the Structure of Grain Boundaries in Silicon and Diamond by Molecular-Dynamics Simulations. Materials Research Society Symposia Proceedings, 1997, 472, 15.	0.1	0
132	Structure and Properties of Polycrystalline Materials From Simulation: An Interfacial Perspective. Materials Research Society Symposia Proceedings, 1999, 586, 289.	0.1	0
133	Quantum Dots from Irradiated Carbon Nanotubes. AIP Conference Proceedings, 2005, , .	0.4	0
134	Molecular Dynamics Simulation of Thermal Conductivity of Diamondoid Crystals. Materials Research Society Symposia Proceedings, 2007, 1022, 1.	0.1	0
135	Thermal Transport in Self-Assembled Conductive Networks for Thermal Interface Materials. Journal of Electronic Packaging, Transactions of the ASME, 2011, 133, .	1.8	0
136	Modeling of Heat Transport in Polymers and Their Nanocomposites. , 2018, , 1-23.		0
137	Molecular dynamics study of domain switching dynamics in KNbO3 and BaTiO3. Journal of Materials Science, 2022, 57, 12929-12946.	3.7	0