

Takuma Shiga

List of Publications by Year in descending order

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Version: 2024-02-01

44
papers

1,763
citations

361296
20
h-index

265120
42
g-index

44
all docs

44
docs citations

44
times ranked

2404
citing authors

#	ARTICLE	IF	CITATIONS
1	Phonon conduction in PbSe, PbTe, and PbTe _{1-x} Se _x alloys from first-principles calculations. Physical Review B, 2012, 85, .	1.1	463
2	Designing Nanostructures for Phonon Transport via Bayesian Optimization. Physical Review X, 2017, 7, .	2.8	127
3	Microscopic mechanism of low thermal conductivity in lead telluride. Physical Review B, 2012, 85, .	1.1	115
4	Thermal phonon engineering by tailored nanostructures. Japanese Journal of Applied Physics, 2018, 57, 080101.	0.8	105
5	Modulation of thermal and thermoelectric transport in individual carbon nanotubes by fullerene encapsulation. Nature Materials, 2017, 16, 892-897.	13.3	99
6	Thermal resistance and phonon scattering at the interface between carbon nanotube and amorphous polyethylene. International Journal of Heat and Mass Transfer, 2013, 67, 1024-1029.	2.5	72
7	Effects of defects on thermoelectric properties of carbon nanotubes. Physical Review B, 2017, 95, .	1.1	61
8	Isolation of Single-Wired Transition-Metal Monochalcogenides by Carbon Nanotubes. Nano Letters, 2019, 19, 4845-4851.	4.5	61
9	Phonon transport in perovskite SrTiO ₃ from first principles. Applied Physics Express, 2015, 8, 071501.	1.1	58
10	Probing and tuning inelastic phonon conductance across finite-thickness interface. Applied Physics Express, 2014, 7, 121801.	1.1	49
11	Ultimate Confinement of Phonon Propagation in Silicon Nanocrystalline Structure. Physical Review Letters, 2018, 120, 045901.	2.9	45
12	Importance of local force fields on lattice thermal conductivity reduction in PbTe _{1-x} Se _x alloys. Europhysics Letters, 2013, 102, 46002.	0.7	39
13	Effect of bending buckling of carbon nanotubes on thermal conductivity of carbon nanotube materials. Journal of Applied Physics, 2012, 111, .	1.1	37
14	Hybrid Thermal Transport Characteristics of Doped Organic Semiconductor Poly(3,4-ethylenedioxythiophene):Tosylate. Journal of Physical Chemistry C, 2019, 123, 26735-26741.	1.5	35
15	Phonon transport analysis of silicon germanium alloys using molecular dynamics simulations. Journal of Applied Physics, 2013, 113, .	1.1	28
16	Scaling laws of cumulative thermal conductivity for short and long phonon mean free paths. Applied Physics Letters, 2014, 105, .	1.5	28
17	Revisiting PbTe to identify how thermal conductivity is really limited. Physical Review B, 2018, 97, .	1.1	28
18	Phonon-interference resonance effects by nanoparticles embedded in a matrix. Physical Review B, 2017, 96, .	1.1	24

#	ARTICLE	IF	CITATIONS
19	One-directional thermal transport in densely aligned single-wall carbon nanotube films. Applied Physics Letters, 2019, 115, .	1.5	23
20	Origin of anomalous anharmonic lattice dynamics of lead telluride. Applied Physics Express, 2014, 7, 041801.	1.1	22
21	Thermal rectification in restructured graphene with locally modulated temperature dependence of thermal conductivity. Physical Review B, 2017, 96, .	1.1	19
22	Extreme near-field heat transfer between gold surfaces. Physical Review B, 2021, 104, .	1.1	19
23	Graphene-diamond hybrid structure as spin-polarized conducting wire with thermally efficient heat sinks. Applied Physics Letters, 2012, 100, .	1.5	18
24	Superlubrication by phonon confinement. Physical Review B, 2018, 97, .	1.1	17
25	Scalable Multi-nanostructured Silicon for Room-Temperature Thermoelectrics. ACS Applied Energy Materials, 2019, 2, 7083-7091.	2.5	17
26	Akhiezer mechanism limits coherent heat conduction in phononic crystals. Physical Review B, 2018, 98, .	1.1	14
27	Thermal conduction through individual cellulose nanofibers. Applied Physics Letters, 2021, 118, .	1.5	14
28	Modeling Heat Conduction in Nanoporous Silicon with Geometry Distributions. Physical Review Applied, 2018, 10, .	1.5	13
29	Enhancing Thermal Boundary Conductance of Graphiteâ€“Metal Interface by Triazine-Based Molecular Bonding. ACS Applied Materials & Interfaces, 2019, 11, 37295-37301.	4.0	13
30	Thermally induced nonlinear vibration of single-walled carbon nanotubes. Physical Review B, 2015, 92, .	1.1	12
31	Influence of mass contrast in alloy phonon scattering. Japanese Journal of Applied Physics, 2014, 53, 021802.	0.8	11
32	First-principles calculations of phonon transport across a vacuum gap. Physical Review B, 2022, 105, .	1.1	11
33	Effects of phonon interference through long range interatomic bonds on thermal interface conductance. Low Temperature Physics, 2016, 42, 711-716.	0.2	10
34	Thermal Conductance of Buckled Carbon Nanotubes. Japanese Journal of Applied Physics, 2012, 51, 015102.	0.8	8
35	Harmonic phonon theory for calculating thermal conductivity spectrum from first-principles dispersion relations. Applied Physics Letters, 2016, 108, .	1.5	8
36	Molecular dynamics study on heat conduction in poly(3,4-ethylenedioxythiophene). Japanese Journal of Applied Physics, 2018, 57, 101601.	0.8	8

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37	Topological descriptor of thermal conductivity in amorphous Si. Journal of Chemical Physics, 2022, 156, .	1.2	8
38	Anisotropic thermal conductivity measurement of organic thin film with bidirectional 3D method. Review of Scientific Instruments, 2021, 92, 034902.	0.6	6
39	Long-range interatomic forces can minimize heat transfer: From slowdown of longitudinal optical phonons to thermal conductivity minimum. Physical Review B, 2016, 94, .	1.1	5
40	Surface phonons limit heat conduction in thin films. Physical Review B, 2021, 103, .	1.1	4
41	Relationship between local coordinates and thermal conductivity in amorphous carbon. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2022, 40, .	0.9	4
42	Modulating temperature dependence of thermal conductivity by nanostructuring. Japanese Journal of Applied Physics, 2018, 57, 120312.	0.8	2
43	Synergistic phonon scattering in epitaxial silicon multilayers with germanium nanodot inclusions. Physical Review B, 2021, 104, .	1.1	2
44	How mass disorder affects heat conduction in ternary amorphous alloys. AIP Advances, 2021, 11, 065026.	0.6	1