Jin-Wu Jiang

List of Publications by Year
in descending order

107 papers	5,662 citations	71061 41 h-index	76872 74 g-index
107 all docs	107 docs citations	107 times ranked	5925 citing authors

#	Article	IF	Citations
1	Negative poissonâ€™s ratio in single-layer black phosphorus. Nature Communications, 2014, 5, 4727.	5.8	613
2	Molecular dynamics simulations of single-layer molybdenum disulphide (MoS2): Stillinger-Weber parametrization, mechanical properties, and thermal conductivity. Journal of Applied Physics, 2013, 114, .	1.1	331
3	A high performance wearable strain sensor with advanced thermal management for motion monitoring. Nature Communications, 2020, 11, 3530.	5.8	313
4	Parametrization of Stillingerâ€“Weber potential based on valence force field model: application to single-layer MoS₂and black phosphorus. Nanotechnology, 2015, 26, 315706.	1.3	214
5	Mechanical properties of single-layer black phosphorus. Journal Physics D: Applied Physics, 2014, 47, 385304.	1.3	203
6	Graphene versus MoS2: A short review. Frontiers of Physics, 2015, 10, 287-302.	2.4	176
7	Manipulating the Thermal Conductivity of Monolayer MoS₂ via Lattice Defect and Strain Engineering. Journal of Physical Chemistry C, 2015, 119, 16358-16365.	1.5	161
8	Thermal conductivities of single- and multi-layer phosphorene: a molecular dynamics study. Nanoscale, 2016, 8, 483-491.	2.8	159
9	Twin graphene: A novel two-dimensional semiconducting carbon allotrope. Carbon, 2017, 118, 370-375.	5.4	150
10	Elastic bending modulus of single-layer molybdenum disulfide (MoS₂): finite thickness effect. Nanotechnology, 2013, 24, 435705.	1.3	141
11	Mechanical properties of MoS2/graphene heterostructures. Applied Physics Letters, 2014, 105, .	1.5	135
12	Interfacial thermal conductance in graphene/MoS2 heterostructures. Carbon, 2016, 96, 888-896.	5.4	116
13	Negative Poissonâ€™s Ratio in Single-Layer Graphene Ribbons. Nano Letters, 2016, 16, 2657-2662.	4.5	115
14	Intrinsic Negative Poissonâ€™s Ratio for Single-Layer Graphene. Nano Letters, 2016, 16, 5286-5290.	4.5	107
15	Modelling heat conduction in polycrystalline hexagonal boron-nitride films. Scientific Reports, 2015, 5, 13228.	1.6	104
16	Mechanical properties and fracture behavior of single-layer phosphorene at finite temperatures. Journal Physics D: Applied Physics, 2015, 48, 395303.	1.3	103
17	A theoretical analysis of cohesive energy between carbon nanotubes, graphene and substrates. Carbon, 2013, 57, 108-119.	5.4	99
18	Auxetic nanomaterials: Recent progress and future development. Applied Physics Reviews, 2016, 3, .	5.5	93

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19	Multiscale computational understanding and growth of 2D materials: a review. Npj Computational Materials, 2020, 6, .	3.5	89
20	Interfacial thermal conductance in graphene/black phosphorus heterogeneous structures. Carbon, 2017, 117, 399-410.	5.4	85
21	A Stillingerâ€“Weber potential for single-layered black phosphorus, and the importance of cross-pucker interactions for a negative Poisson's ratio and edge stress-induced bending. Nanoscale, 2015, 7, 6059-6068.	2.8	80
22	Raman and infrared properties and layer dependence of the phonon dispersions in multilayered graphene. Physical Review B, 2008, 77, .	1.1	73
23	A review on the flexural mode of graphene: lattice dynamics, thermal conduction, thermal expansion, elasticity and nanomechanical resonance. Journal of Physics Condensed Matter, 2015, 27, 083001.	0.7	73
24	First principle study of the thermal conductance in graphene nanoribbon with vacancy and substitutional silicon defects. Applied Physics Letters, 2011, 98, .	1.5	72
25	The art of designing carbon allotropes. Frontiers of Physics, 2019, 14, 1.	2.4	72
26	MoS2 nanoresonators: intrinsically better than graphene?. Nanoscale, 2014, 6, 3618.	2.8	70
27	Machine learning-based design of porous graphene with low thermal conductivity. Carbon, 2020, 157, 262-269.	5.4	65
28	Analytic study of strain engineering of the electronic bandgap in single-layer black phosphorus. Physical Review B, 2015, 91, .	1.1	62
29	Thermal conduction in single-layer black phosphorus: highly anisotropic?. Nanotechnology, 2015, 26, 055701.	1.3	62
30	A Gaussian treatment for the friction issue of Lennard-Jones potential in layered materials: Application to friction between graphene, MoS2, and black phosphorus. Journal of Applied Physics, 2015, 117, .	1.1	62
31	Modulation of Thermal Conductivity in Kinked Silicon Nanowires: Phonon Interchanging and Pinching Effects. Nano Letters, 2013, 13, 1670-1674.	4.5	61
32	Coarse-grained potentials of single-walled carbon nanotubes. Journal of the Mechanics and Physics of Solids, 2014, 71, 197-218.	2.3	61
33	Orientation Dependent Thermal Conductance in Single-Layer MoS2. Scientific Reports, 2013, 3, 2209.	1.6	60
34	Negative Poisson's ratio in graphene oxide. Nanoscale, 2017, 9, 4007-4012.	2.8	59
35	Thermal Conductivity of Freestanding Single Wall Carbon Nanotube Sheet by Raman Spectroscopy. ACS Applied Materials & Interfaces, 2014, 6, 19958-19965.	4.0	58
36	Morphology and in-plane thermal conductivity of hybrid graphene sheets. Applied Physics Letters, 2012, 101, .	1.5	56

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37	Thermal conductivity of silicene nanosheets and the effect of isotopic doping. Journal Physics D: Applied Physics, 2014, 47, 165301.	1.3	54
38	Phonon bandgap engineering of strained monolayer MoS2. Nanoscale, 2014, 6, 8326.	2.8	45
39	Misfit Strain-Induced Buckling for Transition-Metal Dichalcogenide Lateral Heterostructures: A Molecular Dynamics Study. Acta Mechanica Solida Sinica, 2019, 32, 17-28.	1.0	45
40	Joule heating and thermoelectric properties in short single-walled carbon nanotubes: Electron-phonon interaction effect. Journal of Applied Physics, 2011, 110, .	1.1	42
41	Thermal conductivity dependence on chain length in amorphous polymers. Journal of Applied Physics, 2013, 113, .	1.1	42
42	Tension-induced phase transition of single-layer molybdenum disulphide (MoS2) at low temperatures. Nanotechnology, 2014, 25, 295701.	1.3	42
43	Topology-induced thermal rectification in carbon nanodevice. Europhysics Letters, 2010, 89, 46005.	0.7	41
44	Enhancing the mass sensitivity of graphene nanoresonators via nonlinear oscillations: the effective strain mechanism. Nanotechnology, 2012, 23, 475501.	1.3	41
45	Tunable negative Poisson's ratio in hydrogenated graphene. Nanoscale, 2016, 8, 15948-15953.	2.8	40
46	The buckling of single-layer MoS₂ under uniaxial compression. Nanotechnology, 2014, 25, 355402.	1.3	39
47	Molecular dynamics simulations for mechanical properties of borophene: parameterization of valence force field model and Stillinger-Weber potential. Scientific Reports, 2017, 7, 45516.	1.6	38
48	Temperature-dependent mechanical properties of single-layer molybdenum disulphide: Molecular dynamics nanoindentation simulations. Applied Physics Letters, 2013, 103, .	1.5	37
49	High thermoelectric figure of merit in silicon-germanium superlattice structured nanowires. Applied Physics Letters, 2012, 101, 233114.	1.5	33
50	Mechanical strain effects on black phosphorus nanoresonators. Nanoscale, 2016, 8, 901-905.	2.8	31
51	A surface stacking fault energy approach to predicting defect nucleation in surface-dominated nanostructures. Journal of the Mechanics and Physics of Solids, 2013, 61, 1915-1934.	2.3	30
52	Chiral symmetry analysis and rigid rotational invariance for the lattice dynamics of single-wall carbon nanotubes. Physical Review B, 2006, 73, .	1.1	29
53	Superior thermal conductivity and extremely high mechanical strength in polyethylene chains from ab initio calculation. Journal of Applied Physics, 2012, 111, 124304.	1.1	28
54	Thermal conductivity of carbon nanocoils. Applied Physics Letters, 2013, 103, .	1.5	28

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55	Elastic bending modulus for single-layer black phosphorus. Journal Physics D: Applied Physics, 2015, 48, 455305.	1.3	27
56	Topologically protected interface phonons in two-dimensional nanomaterials: hexagonal boron nitride and silicon carbide. Nanoscale, 2018, 10, 13913-13923.	2.8	26
57	Acoustic and breathing phonon modes in bilayer graphene with MoirÃ© patterns. Applied Physics Letters, 2012, 101, 023113.	1.5	25
58	Effects of electron-phonon interaction on thermal and electrical transport through molecular nano-conductors. AIP Advances, 2015, 5, 053204.	0.6	25
59	A comparative study of two molecular mechanics models based on harmonic potentials. Journal of Applied Physics, 2013, 113, .	1.1	23
60	A full spd tight-binding treatment for electronic bands of graphitic tubes. Solid State Communications, 2009, 149, 82-86.	0.9	20
61	Manipulation of heat current by the interface between graphene and white graphene. Europhysics Letters, 2011, 96, 16003.	0.7	20
62	The effects of vacancy and oxidation on black phosphorus nanoresonators. Nanotechnology, 2017, 28, 135202.	1.3	15
63	Adsorbate migration effects on continuous and discontinuous temperature-dependent transitions in the quality factors of graphene nanoresonators. Nanotechnology, 2014, 25, 025501.	1.3	14
64	Strain engineering for thermal conductivity of single-walled carbon nanotube forests. Carbon, 2015, 81, 688-693.	5.4	14
65	Mechanical oscillation of kinked silicon nanowires: A natural nanoscale spring. Applied Physics Letters, 2013, 102, .	1.5	13
66	The third principal direction besides armchair and zigzag in single-layer black phosphorus. Nanotechnology, 2015, 26, 365702.	1.3	13
67	Phonon modes in single-walled molybdenum disulphide nanotubes: lattice dynamics calculation and molecular dynamics simulation. Nanotechnology, 2014, 25, 105706.	1.3	12
68	Interlayer breathing and shear modes in few-layer black phosphorus. Journal of Physics Condensed Matter, 2016, 28, 165401.	0.7	12
69	The Strain Rate Effect on the Buckling of Single-Layer MoS2. Scientific Reports, 2015, 5, 7814.	1.6	10
70	Thermal-fluctuation gradient induced tangential entropic forces in layered two-dimensional materials. Journal of the Mechanics and Physics of Solids, 2022, 163, 104871.	2.3	10
71	Polar surface effects on the thermal conductivity of ZnO nanowires: a shell-like surface reconstruction-induced preserving mechanism. Nanoscale, 2013, 5, 11035.	2.8	9
72	Modulation of thermal conductivity in single-walled carbon nanotubes by fullerene encapsulation: enhancement or reduction?. Nanoscale, 2018, 10, 18249-18256.	2.8	9

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73	Misfit strain-induced energy dissipation for graphene/MoS₂ heterostructure nanomechanical resonators. Nanotechnology, 2019, 30, 265701.	1.3	9
74	Strain engineering for thermal conductivity of diamond nanothread forests. Journal Physics D: Applied Physics, 2019, 52, 085301.	1.3	9
75	Why twisting angles are diverse in graphene MoirÃ© patterns?. Journal of Applied Physics, 2013, 113, .	1.1	8
76	Thermal contraction in silicon nanowires at low temperatures. Nanoscale, 2010, 2, 2864.	2.8	7
77	Size-sensitive Youngâ€™s modulus of kinked silicon nanowires. Nanotechnology, 2013, 24, 185702.	1.3	6
78	Registry effect on the thermal conductivity of few-layer graphene. Journal of Applied Physics, 2014, 116, .	1.1	6
79	Edge-modeâ€“based graphene nanomechanical resonators for high-sensitivity mass sensor. Europhysics Letters, 2018, 123, 36002.	0.7	6
80	Strain tunable phononic topological bandgaps in two-dimensional hexagonal boron nitride. Journal of Applied Physics, 2019, 125, .	1.1	6
81	Self-assembly of water molecules using graphene nanoresonators. RSC Advances, 2016, 6, 110466-110470.	1.7	5
82	Self-cleaning by harnessing wrinkles in two-dimensional layered crystals. Nanoscale, 2018, 10, 312-318.	2.8	5
83	Effect of misfit strain on the thermal expansion coefficient of graphene/MoS₂ van der Waals heterostructures. Physical Chemistry Chemical Physics, 2021, 24, 156-162.	1.3	5
84	Graphene-based torsional resonator from molecular-dynamics simulation. Europhysics Letters, 2011, 96, 66007.	0.7	4
85	Buckled graphene for efficient energy harvest, storage and conversion. Nanotechnology, 2016, 27, 405402.	1.3	4
86	Effect of interlayer space on the structure and Poisson's ratio of a graphene/MoS2 tubular van der Waals heterostructure. Journal of Applied Physics, 2018, 124, .	1.1	4
87	Tunable thermal expansion coefficient of transition-metal dichalcogenide lateral heterostructures. Nanotechnology, 2020, 31, 405709.	1.3	4
88	Bright and dark modes induced by graphene bubbles. Europhysics Letters, 2012, 97, 36004.	0.7	3
89	Preserving theQ-factors of ZnO nanoresonators via polar surface reconstruction. Nanotechnology, 2013, 24, 405705.	1.3	3
90	Intrinsic twisting instability of kinked silicon nanowires for intracellular recording. Physical Chemistry Chemical Physics, 2015, 17, 28515-28524.	1.3	3

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91	An analytic investigation for the edge effect on mechanical properties of graphene nanoribbons. Journal of Applied Physics, 2018, 123, 064301.	1.1	3
92	Irreversible crumpling of graphene from hydrostatic and biaxial compression. Journal Physics D: Applied Physics, 2018, 51, 015302.	1.3	3
93	Nanomechanical resonators based on group IV element monolayers. Nanotechnology, 2018, 29, 165503.	1.3	3
94	Diameter-dependent polygonal cross section for holey phenine nanotubes. Nanotechnology, 2020, 31, 085702.	1.3	3
95	Strain Engineering for the Kapitza Resistance of the ZrO$$_{mathrm {2}}$$/$$alpha $$-Al$$_{mathrm {2}}$$O$$_{mathrm {3}}$$ and YSZ/$$alpha $$-Al$$_{mathrm {2}}$$O$$_{mathrm {3}}$$ Interfaces. Acta Mechanica Solida Sinica, 2022, 35, 101-112.	1.0	3
96	Effect of misfit strain on the buckling of graphene/MoS2 van der Waals heterostructures. Nanotechnology, 2021, 32, 485701.	1.3	3
97	Strain engineering for mechanical properties in graphene nanoribbons revisited: The warping edge effect. Journal of Applied Physics, 2016, 119, 234301.	1.1	2
98	Reply to the Comment on â€˜Parametrization of Stillingerâ€“Weber potential based on valence force field model: application to single-layer MoS₂and black phosphorusâ€™. Nanotechnology, 2016, 27, 238002.	1.3	2
99	Buckling of cylindrical shells subjected to a finite number of lateral loads: application to single-walled carbon nanotubes. Nanotechnology, 2020, 31, 205711.	1.3	2
100	One-dimensional transition metal dichalcogenide lateral heterostructures. Physical Chemistry Chemical Physics, 2021, 23, 27312-27319.	1.3	2
101	The effect of layer number on the gas permeation through nanopores within few-layer graphene. Nanotechnology, 2022, 33, 245702.	1.3	2
102	A universal exponential factor in the dimensional crossover from graphene to graphite. Journal of Applied Physics, 2010, 108, 124311.	1.1	1
103	Physical description of the monoclinic phase of zirconia based on the bond-order characteristic of the Tersoff potential. Frontiers of Physics, 2021, 16, 1.	2.4	1
104	An empirical description for the hinge-like mechanism in single-layer black phosphorus: The angleâ€“angle cross interaction. Acta Mechanica Solida Sinica, 2017, 30, 227-233.	1.0	0
105	Carbon rings as building blocks for single-walled carbon nanotubes. Nano Futures, 2020, 4, 025001.	1.0	0
106	Tuning the shell structure deformation of APS thermal barrier coatings: A molecular dynamics study. AIP Advances, 2022, 12, 035001.	0.6	0
107	Thermal transport in porous graphene with coupling effect of nanopore shape and defect concentration. Nanotechnology, 0, , .	1.3	0