Kun Cai

List of Publications by Year
in descending order

107	1,426	361296	454834
papers	citations	20 h-index	30 g-index

110	110	110	730
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Self-Excited Oscillation of Rotating Double-Walled Carbon Nanotubes. Nano Letters, 2014, 14, 2558-2562.	4.5	93
2	Interfacial thermal conductance in graphene/black phosphorus heterogeneous structures. Carbon, 2017, 117, 399-410.	5.4	85
3	Thermal conductivity of graphene kirigami: Ultralow and strain robustness. Carbon, 2016, 104, 203-213.	5.4	69
4	Configuration jumps of rotor in a nanomotor from carbon nanostructures. Carbon, 2016, 101, 168-176.	5.4	46
5	A direct approach to controlling the topology in structural optimization. Computers and Structures, 2020, 227, 106141.	2.4	39
6	A stable high-speed rotational transmission system based on nanotubes. Applied Physics Letters, 2015, 106, .	1.5	38
7	Quantitative control of a rotary carbon nanotube motor under temperature stimulus. Nanotechnology, 2016, 27, 055706.	1.3	36
8	Thermal stability of a free nanotube from single-layer black phosphorus. Nanotechnology, 2016, 27, 235703.	1.3	32
9	Buckling behavior of nanotubes from diamondene. Materials and Design, 2018, 149, 34-42.	3.3	32
10	A simple approach to find optimal topology of a continuum with tension-only or compression-only material. Structural and Multidisciplinary Optimization, 2011, 43, 827-835.	1.7	31
11	A nano universal joint made from curved double-walled carbon nanotubes. Applied Physics Letters, 2015, 106, 241907.	1.5	29
12	Winding a nanotube from black phosphorus nanoribbon onto a CNT at low temperature: A molecular dynamics study. Materials and Design, 2017, 121, 406-413.	3.3	29
13	Over-Speeding Rotational Transmission of a Carbon Nanotube-Based Bearing. Journal of Physical Chemistry C, 2016, 120, 5797-5803.	1.5	28
14	Rotation measurements of a thermally driven rotary nanomotor with a spring wing. Physical Chemistry Chemical Physics, 2016, 18, 22478-22486.	1.3	26
15	Effects of size and surface on the auxetic behaviour of monolayer graphene kirigami. Scientific Reports, 2016, 6, 35157.	1.6	26
16	Thermal and tensile properties of diamondene at finite temperature: A molecular dynamics study. Materials and Design, 2018, 156, 125-134.	3.3	25
17	Optimal layout of multiple bi-modulus materials. Structural and Multidisciplinary Optimization, 2016, 53, 801-811.	1.7	24
18	Controlling the maximum first principal stress in topology optimization. Structural and Multidisciplinary Optimization, 2021, 63, 327-339.	1.7	24

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19	Post-buckling solutions of hyper-elastic beam by canonical dual finite element method. Mathematics and Mechanics of Solids, 2014, 19, 659-671.	1.5	23
20	Study on the dynamics responses of a transmission system made from carbon nanotubes. Journal of Applied Physics, 2015, 117, .	1.1	21
21	Strength and stability analysis of a single-walled black phosphorus tube under axial compression. Nanotechnology, 2016, 27, 275701.	1.3	19
22	Dynamic behavior of a black phosphorus and carbon nanotube composite system. Journal Physics D: Applied Physics, 2017, 50, 025304.	1.3	19
23	Self-Assembly of a Jammed Black Phosphorus Nanoribbon on a Fixed Carbon Nanotube. Journal of Physical Chemistry C, 2017, 121, 10174-10181.	1.5	18
24	Unusual thermal properties of graphene origami crease: A molecular dynamics study. Green Energy and Environment, 2022, 7, 86-94.	4.7	18
25	Molecular dynamics study on welding a defected graphene by a moving fullerene. Applied Surface Science, 2016, 377, 213-220.	3.1	17
26	Fully Atomistic Molecular Dynamics Computation of Physico-Mechanical Properties of PB, PS, and SBS. Nanomaterials, 2019, 9, 1088.	1.9	17
27	A method for measuring rotation of a thermal carbon nanomotor using centrifugal effect. Scientific Reports, 2016, 6, 27338.	1.6	16
28	Damage behavior of a bonded sandwich beam with corrugated core under 3-point bending. Materials and Design, 2016, 95, 165-172.	3.3	16
29	Nanotextures from orthogonal graphene ribbons: Thermal stability evaluation. Carbon, 2019, 144, 81-90.	5.4	16
30	Stiffness Design of Continuum Structures by a Bionics Topology Optimization Method. Journal of Applied Mechanics, Transactions ASME, 2008, 75, .	1.1	15
31	Buckling behaviour of composites with double walled nanotubes from carbon and phosphorus. Physical Chemistry Chemical Physics, 2017, 19, 10922-10930.	1.3	14
32	Topology optimization of continuum structures with bi-modulus materials. Engineering Optimization, 2014, 46, 244-260.	1.5	13
33	Significance tests on the output power of a thermally driven rotary nanomotor. Nanotechnology, 2017, 28, 215705.	1.3	13
34	Nonlinear dynamic behavior of a clampedâ€“clamped beam from BNC nanotube impacted by fullerene. Nonlinear Dynamics, 2019, 96, 1133-1145.	2.7	13
35	Spectrum of Temperature-Dependent Rotational Frequency of the Rotor in a Thermally Diven Rotary Nanomotor. Journal of Physical Chemistry C, 2017, 121, 16985-16995.	1.5	12
36	Self-assembly of a nanotube from a black phosphorus nanoribbon on a string of fullerenes at low temperature. Physical Chemistry Chemical Physics, 2017, 19, 24009-24017.	1.3	12

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37	Softening to hardening of stretched diamondene nanotubes. Physical Chemistry Chemical Physics, 2018, 20, 21136-21143.	1.3	12
38	Coupling effect of van der Waals, centrifugal, and frictional forces on a GHz rotationâ€“translation nano-convertor. Physical Chemistry Chemical Physics, 2019, 21, 359-368.	1.3	12
39	Nanospring from partly hydrogenated graphene ribbon: A molecular dynamics study. Applied Surface Science, 2021, 541, 148507.	3.1	12
40	A heat and force locating sensor with nanoscale precision: a knitted graphene sheet. Nanoscale, 2021, 13, 5826-5833.	2.8	12
41	Robust topology optimisation of bi-modulus structures. CAD Computer Aided Design, 2013, 45, 1159-1169.	1.4	11
42	Compliance optimization of a continuum with bimodulus material under multiple load cases. CAD Computer Aided Design, 2013, 45, 195-203.	1.4	11
43	Dynamic behavior of curved double-wall carbon nanotubes with rotating inner tube. RSC Advances, 2015, 5, 29908-29913.	1.7	11
44	Robust rotation of rotor in a thermally driven nanomotor. Scientific Reports, 2017, 7, 46159.	1.6	11
45	Self-assembly of a parallelogram black phosphorus ribbon into a nanotube. Scientific Reports, 2017, 7, 12951.	1.6	11
46	Efficient selection methods for black phosphorene nanoribbons. Nanoscale, 2018, 10, 4385-4390.	2.8	11
47	Activation of Notch1 signaling by HTLV-1 Tax promotes proliferation of adult T-cell leukemia cells. Biochemical and Biophysical Research Communications, 2019, 512, 598-603.	1.0	11
48	Mechanical properties of bonded few-layered graphene via uniaxial test: A molecular dynamics simulation study. Computational Materials Science, 2020, 172, 109295.	1.4	11
49	A GHz rotary nanoflake driven by diamond needles: A molecular dynamics study. Materials and Design, 2020, 191, 108593.	3.3	11
50	Carbon-nanotube Nanomotor Driven by Graphene Origami. Physical Review Applied, 2021, 15, .	1.5	11
51	Postbuckling analysis of a nonlinear beam with axial functionally graded material. Journal of Engineering Mathematics, 2014, 88, 121-136.	0.6	10
52	Dynamic response of a carbon nanotube-based rotary nano device with different carbon-hydrogen bonding layout. Applied Surface Science, 2016, 365, 352-356.	3.1	10
53	Critical conditions for escape of a high-speed fullerene from a BNC nanobeam after collision. Scientific Reports, 2018, 8, 913.	1.6	10
54	Mechanical stability of a nanotube from monolayer black phosphorus with the [110] direction as the tube's circumference or generatrix. Physical Chemistry Chemical Physics, 2018, 20, 3465-3473.	1.3	10

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55	Thermal Conductivity of Two Types of 2D Carbon Allotropes: a Molecular Dynamics Study. Nanoscale Research Letters, 2019, 14, 7.	3.1	10
56	Fabrication of an ideal nanoring from a black phosphorus nanoribbon upon movable bundling carbon nanotubes. Nanotechnology, 2017, 28, 385603.	1.3	9
57	Rotational behavior of a nanoring protected by argon. Computational Materials Science, 2018, 154, 132-137.	1.4	9
58	Stable rotation transmission of a CNT-based nanogear drive system with intersecting axes at low temperature. Surface Science, 2020, 693, 121548.	0.8	9
59	A nanoengine governor based on the end interfacial effect. Nanotechnology, 2016, 27, 495704.	1.3	8
60	Absorption and temperature effects on the tensile strength of a black phosphorus ribbon in argon environment. Computational Materials Science, 2018, 150, 15-23.	1.4	8
61	Local strain field engineering on interfacial thermal resistance of graphene nanoribbon. Applied Physics Letters, 2018, 112, .	1.5	8
62	Shrinkage-expansion of a tri-isometric knitting from graphene ribbons at finite temperature. Materials and Design, 2020, 185, 108269.	3.3	8
63	Topology optimization of bi-modulus structures using the concept of bone remodeling. Engineering Computations, 2014, 31, 1361-1378.	0.7	7
64	Temperature effects on a motion transmission device made from carbon nanotubes: a molecular dynamics study. RSC Advances, 2015, 5, 66438-66450.	1.7	7
65	Configuration transition between graphene and nanoscroll using kinetic energy injecting method. Computational Materials Science, 2016, 125, 146-153.	1.4	7
66	Dynamic behavior of a rotary nanomotor in argon environments. Scientific Reports, 2018, 8, 3511.	1.6	7
67	A bionic approach for topology optimization for tension-only or compression-only design. Journal of Bionic Engineering, 2010, 7, 397-404.	2.7	6
68	Layout optimization for multi-bi-modulus materials system under multiple load cases. Engineering With Computers, 2016, 32, 745-753.	3.5	6
69	Thermal expansion producing easier formation of a black phosphorus nanotube from nanoribbon on carbon nanotube. Nanotechnology, 2018, 29, 055603.	1.3	6
70	Initial Relative Position Influencing Self-Assembly of a Black Phosphorus Ribbon on a CNT. International Journal of Molecular Sciences, 2018, 19, 4085.	1.8	6
71	Thermal shrinkage and stability of diamondene nanotubes. Nanotechnology, 2019, 30, 075702.	1.3	6
72	A method for designing tunable chiral mechanical carbon networks for energy storage. Physical Chemistry Chemical Physics, 2021, 23, 26209-26218.	1.3	6

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73	Friction effect of stator in a multi-walled CNT-based rotation transmission system. Nanotechnology, 2018, 29, 045706.	1.3	5
74	Self-assembly of nano-scroll/nano-helix from a diamondene nanoribbon with one passivated surface. Applied Surface Science, 2020, 527, 146848.	3.1	5
75	Thermal stability of a nanoporous graphene membrane candidate from an orthogonal-diagonal nanotexture: A molecular dynamics test. Applied Surface Science, 2021, 558, 149955.	3.1	5
76	CNT-motor driven by competition between thermal fluctuation and REF. International Journal of Mechanical Sciences, 2022, 225, 107372.	3.6	5
77	Unwinding of a carbon nanoscroll due to high speed rotation. AIP Advances, 2015, 5, 107202.	0.6	4
78	Layout Optimization of Ill-Loaded Multiphase Bi-Modulus Materials. International Journal of Applied Mechanics, 2016, 08, 1650038.	1.3	4
79	Energy absorption induced oscillation of a rotating curved carbon nanotube in a nano bearing. Computational Materials Science, 2016, 115, 72-76.	1.4	4
80	Rotation-excited perfect oscillation of a tri-walled nanotube-based oscillator at ultralow temperature. Nanotechnology, 2017, 28, 155701.	1.3	4
81	A nano continuous variable transmission system from nanotubes. Nanotechnology, 2018, 29, 075707.	1.3	4
82	Critical Output Torque of a GHz CNT-Based Rotation Transmission System Via Axial Interface Friction at Low Temperature. International Journal of Molecular Sciences, 2019, 20, 3851.	1.8	4
83	Recoverability of a gigahertz rotation-translation nanoconvertor with hydrogenated deformable rotor at room temperature. Nanotechnology, 2019, 30, 465301.	1.3	4
84	Vibration behavior of diamondene nano-ribbon passivated by hydrogen. Scientific Reports, 2019, 9, 15783.	1.6	4
85	Analogous Diamondene Nanotube Structure Prediction Based on Molecular Dynamics and First-Principle Calculations. Nanomaterials, 2020, 10, 846.	1.9	4
86	Position effects of the graphene-origami actuators on the rotation of a CNT nanomotor. Physical Chemistry Chemical Physics, 2021, 23, 18893-18898.	1.3	4
87	Efficiency of CNT-based rotation transmission nanosystem in water. Nanotechnology, 2021, 32, 245401.	1.3	4
88	Conditions for escape of a rotor in a rotary nanobearing from short triple-wall nanotubes. Scientific Reports, 2017, 7, 6772.	1.6	3
89	Brittle-to-ductile transition in fracture of few-layered black phosphorus ribbons under uniaxial stretching. Computational Materials Science, 2018, 144, 210-215.	1.4	3
90	Thermal Vibration-Induced Rotation of Nano-Wheel: A Molecular Dynamics Study. International Journal of Molecular Sciences, 2018, 19, 3513.	1.8	3

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91	Strength analysis of a defective diamondene nanoribbon under uni-axial tension. Computational Materials Science, 2020, 173, 109459.	1.4	3
92	An Optimal Construction of a Hydropower Arch Gate. Advanced Materials Research, 2011, 346, 109-115.	0.3	2
93	Length difference effect on dynamic behaviors of double-walled carbon nanotubes. Mechanics and Industry, 2015, 16, 110.	0.5	2
94	A nano converter from carbon nanotubes with multiple output signals. Computational Materials Science, 2016, 111, 263-268.	1.4	2
95	Effects of Tearing Conditions on the Crack Propagation in a Monolayer Graphene Sheet. International Journal of Molecular Sciences, 2022, 23, 6471.	1.8	2
96	Stiffness design of a continuum under Ill-load cases by fractional-norm objective formulation. Optimization and Engineering, 2014, 15, 927-944.	1.3	1
97	Multiple materials layout optimization in a layered structure. Mechanics and Industry, 2016, 17, 404.	0.5	1
98	Interfacial thermal conductance of buckling carbon nanotubes. AIP Advances, 2018, 8, 065116.	0.6	1
99	Ideal Oscillation of a Hydrogenated Deformable Rotor in a Gigahertz Rotationâ€“Translation Nanoconverter at Low Temperatures. Sensors, 2020, 20, 1969.	2.1	1
100	Rotation-induced axial oscillation of a composite nanoconvertor at low temperature. JVC/Journal of Vibration and Control, 2021, 27, 1113-1122.	1.5	1
101	Mechanical Properties of Single-Walled Carbon Nanotubes under Large Axial Deformation. Advanced Materials Research, 0, 97-101, 3910-3915.	0.3	0
102	An Evolutionary Method for Tension/Compression-Only Optimal Stiffness Design with Volume Constraint. , 2010, , .		0
103	Effects of Moduli Differences on Layout Optimization of a Continuum with Multiple Materials. Advanced Materials Research, 2011, 217-218, 1414-1418.	0.3	0
104	Volumes Constrained Layout Optimization of a Continuum with Multiple Materials. Key Engineering Materials, 0, 480-481, 619-623.	0.4	0
105	A New Design of a Hydraulic Steel Radial Gate with Two Oblique Arms by Topology Optimization. Advanced Materials Research, 2013, 712-715, 2906-2912.	0.3	0
106	An accurate test method for measuring static compressive properties of a material. Australian Journal of Mechanical Engineering, 2017, 15, 46-54.	1.5	0
107	Nonlinear vibration of a buckled/damaged BNC nanobeam transversally impacted by a high-speed C60. Scientific Reports, 2021, 11, 635.	1.6	0