

Kun Cai

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104
papers

1,022
citations

16
h-index

26
g-index

110
ext. papers

1,252
ext. citations

4.1
avg, IF

4.9
L-index

#	Paper	IF	Citations
104	Self-excited oscillation of rotating double-walled carbon nanotubes. <i>Nano Letters</i> , 2014 , 14, 2558-62	11.5	83
103	Interfacial thermal conductance in graphene/black phosphorus heterogeneous structures. <i>Carbon</i> , 2017 , 117, 399-410	10.4	58
102	Thermal conductivity of graphene kirigami: Ultralow and strain robustness. <i>Carbon</i> , 2016 , 104, 203-213	10.4	49
101	Configuration jumps of rotor in a nanomotor from carbon nanostructures. <i>Carbon</i> , 2016 , 101, 168-176	10.4	41
100	A stable high-speed rotational transmission system based on nanotubes. <i>Applied Physics Letters</i> , 2015 , 106, 021909	3.4	35
99	Quantitative control of a rotary carbon nanotube motor under temperature stimulus. <i>Nanotechnology</i> , 2016 , 27, 055706	3.4	30
98	A nano universal joint made from curved double-walled carbon nanotubes. <i>Applied Physics Letters</i> , 2015 , 106, 241907	3.4	29
97	A simple approach to find optimal topology of a continuum with tension-only or compression-only material. <i>Structural and Multidisciplinary Optimization</i> , 2011 , 43, 827-835	3.6	29
96	Thermal stability of a free nanotube from single-layer black phosphorus. <i>Nanotechnology</i> , 2016 , 27, 235703	3.4	26
95	Over-Speeding Rotational Transmission of a Carbon Nanotube-Based Bearing. <i>Journal of Physical Chemistry C</i> , 2016 , 120, 5797-5803	3.8	26
94	Winding a nanotube from black phosphorus nanoribbon onto a CNT at low temperature: A molecular dynamics study. <i>Materials and Design</i> , 2017 , 121, 406-413	8.1	25
93	Rotation measurements of a thermally driven rotary nanomotor with a spring wing. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 22478-86	3.6	24
92	Effects of size and surface on the auxetic behaviour of monolayer graphene kirigami. <i>Scientific Reports</i> , 2016 , 6, 35157	4.9	23
91	Post-buckling solutions of hyper-elastic beam by canonical dual finite element method. <i>Mathematics and Mechanics of Solids</i> , 2014 , 19, 659-671	2.3	18
90	Study on the dynamics responses of a transmission system made from carbon nanotubes. <i>Journal of Applied Physics</i> , 2015 , 117, 234305	2.5	17
89	A direct approach to controlling the topology in structural optimization. <i>Computers and Structures</i> , 2020 , 227, 106141	4.5	17
88	Self-Assembly of a Jammed Black Phosphorus Nanoribbon on a Fixed Carbon Nanotube. <i>Journal of Physical Chemistry C</i> , 2017 , 121, 10174-10181	3.8	16

87	Dynamic behavior of a black phosphorus and carbon nanotube composite system. <i>Journal Physics D: Applied Physics</i> , 2017 , 50, 025304	3	16
86	Buckling behavior of nanotubes from diamondene. <i>Materials and Design</i> , 2018 , 149, 34-42	8.1	16
85	Strength and stability analysis of a single-walled black phosphorus tube under axial compression. <i>Nanotechnology</i> , 2016 , 27, 275701	3.4	16
84	Optimal layout of multiple bi-modulus materials. <i>Structural and Multidisciplinary Optimization</i> , 2016 , 53, 801-811	3.6	15
83	Buckling behaviour of composites with double walled nanotubes from carbon and phosphorus. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 10922-10930	3.6	13
82	Significance tests on the output power of a thermally driven rotary nanomotor. <i>Nanotechnology</i> , 2017 , 28, 215705	3.4	12
81	Thermal and tensile properties of diamondene at finite temperature: A molecular dynamics study. <i>Materials and Design</i> , 2018 , 156, 125-134	8.1	12
80	A method for measuring rotation of a thermal carbon nanomotor using centrifugal effect. <i>Scientific Reports</i> , 2016 , 6, 27338	4.9	12
79	Damage behavior of a bonded sandwich beam with corrugated core under 3-point bending. <i>Materials and Design</i> , 2016 , 95, 165-172	8.1	11
78	Topology optimization of continuum structures with bi-modulus materials. <i>Engineering Optimization</i> , 2014 , 46, 244-260	2	11
77	Robust topology optimisation of bi-modulus structures. <i>CAD Computer Aided Design</i> , 2013 , 45, 1159-1162	9	11
76	Compliance optimization of a continuum with bimodulus material under multiple load cases. <i>CAD Computer Aided Design</i> , 2013 , 45, 195-203	2.9	11
75	Controlling the maximum first principal stress in topology optimization. <i>Structural and Multidisciplinary Optimization</i> , 2021 , 63, 327-339	3.6	11
74	Critical conditions for escape of a high-speed fullerene from a BNC nanobeam after collision. <i>Scientific Reports</i> , 2018 , 8, 913	4.9	10
73	Postbuckling analysis of a nonlinear beam with axial functionally graded material. <i>Journal of Engineering Mathematics</i> , 2014 , 88, 121-136	1.2	10
72	Self-assembly of a nanotube from a black phosphorus nanoribbon on a string of fullerenes at low temperature. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 24009-24017	3.6	10
71	Molecular dynamics study on welding a defected graphene by a moving fullerene. <i>Applied Surface Science</i> , 2016 , 377, 213-220	6.7	10
70	Nonlinear dynamic behavior of a clamped-clamped beam from BNC nanotube impacted by fullerene. <i>Nonlinear Dynamics</i> , 2019 , 96, 1133-1145	5	9

69	Dynamic behavior of curved double-wall carbon nanotubes with rotating inner tube. <i>RSC Advances</i> , 2015 , 5, 29908-29913	3.7	9
68	Mechanical stability of a nanotube from monolayer black phosphorus with the [110] direction as the tube circumference or generatrix. <i>Physical Chemistry Chemical Physics</i> , 2018 , 20, 3465-3473	3.6	9
67	Dynamic response of a carbon nanotube-based rotary nano device with different carbon-hydrogen bonding layout. <i>Applied Surface Science</i> , 2016 , 365, 352-356	6.7	9
66	Stiffness Design of Continuum Structures by a Bionics Topology Optimization Method. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2008 , 75,	2.7	9
65	Robust rotation of rotor in a thermally driven nanomotor. <i>Scientific Reports</i> , 2017 , 7, 46159	4.9	8
64	Fully Atomistic Molecular Dynamics Computation of Physico-Mechanical Properties of PB, PS, and SBS. <i>Nanomaterials</i> , 2019 , 9,	5.4	8
63	Spectrum of Temperature-Dependent Rotational Frequency of the Rotor in a Thermally Driven Rotary Nanomotor. <i>Journal of Physical Chemistry C</i> , 2017 , 121, 16985-16995	3.8	8
62	Nanotextures from orthogonal graphene ribbons: Thermal stability evaluation. <i>Carbon</i> , 2019 , 144, 81-90	10.4	8
61	Self-assembly of a parallelogram black phosphorus ribbon into a nanotube. <i>Scientific Reports</i> , 2017 , 7, 12951	4.9	7
60	Activation of Notch1 signaling by HTLV-1 Tax promotes proliferation of adult T-cell leukemia cells. <i>Biochemical and Biophysical Research Communications</i> , 2019 , 512, 598-603	3.4	7
59	Local strain field engineering on interfacial thermal resistance of graphene nanoribbon. <i>Applied Physics Letters</i> , 2018 , 112, 021604	3.4	7
58	Rotational behavior of a nanoring protected by argon. <i>Computational Materials Science</i> , 2018 , 154, 132-137	3.7	7
57	Fabrication of an ideal nanoring from a black phosphorus nanoribbon upon movable bundling carbon nanotubes. <i>Nanotechnology</i> , 2017 , 28, 385603	3.4	7
56	Topology optimization of bi-modulus structures using the concept of bone remodeling. <i>Engineering Computations</i> , 2014 , 31, 1361-1378	1.4	7
55	Mechanical properties of bonded few-layered graphene via uniaxial test: A molecular dynamics simulation study. <i>Computational Materials Science</i> , 2020 , 172, 109295	3.2	7
54	Thermal Conductivity of Two Types of 2D Carbon Allotropes: a Molecular Dynamics Study. <i>Nanoscale Research Letters</i> , 2019 , 14, 7	5	6
53	A GHz rotary nanoflake driven by diamond needles: A molecular dynamics study. <i>Materials and Design</i> , 2020 , 191, 108593	8.1	6
52	Dynamic behavior of a rotary nanomotor in argon environments. <i>Scientific Reports</i> , 2018 , 8, 3511	4.9	6

51	Softening to hardening of stretched diamondene nanotubes. <i>Physical Chemistry Chemical Physics</i> , 2018 , 20, 21136-21143	3.6	6
50	Stable rotation transmission of a CNT-based nanogear drive system with intersecting axes at low temperature. <i>Surface Science</i> , 2020 , 693, 121548	1.8	6
49	A nanoengine governor based on the end interfacial effect. <i>Nanotechnology</i> , 2016 , 27, 495704	3.4	6
48	Layout optimization for multi-bi-modulus materials system under multiple load cases. <i>Engineering With Computers</i> , 2016 , 32, 745-753	4.5	6
47	Configuration transition between graphene and nanoscroll using kinetic energy injecting method. <i>Computational Materials Science</i> , 2016 , 125, 146-153	3.2	6
46	Initial Relative Position Influencing Self-Assembly of a Black Phosphorus Ribbon on a CNT. <i>International Journal of Molecular Sciences</i> , 2018 , 19,	6.3	6
45	Absorption and temperature effects on the tensile strength of a black phosphorus ribbon in argon environment. <i>Computational Materials Science</i> , 2018 , 150, 15-23	3.2	5
44	Temperature effects on a motion transmission device made from carbon nanotubes: a molecular dynamics study. <i>RSC Advances</i> , 2015 , 5, 66438-66450	3.7	5
43	Unusual thermal properties of graphene origami crease: A molecular dynamics study. <i>Green Energy and Environment</i> , 2020 ,	5.7	5
42	Coupling effect of van der Waals, centrifugal, and frictional forces on a GHz rotation-translation nano-converter. <i>Physical Chemistry Chemical Physics</i> , 2018 , 21, 359-368	3.6	4
41	Unwinding of a carbon nanoscroll due to high speed rotation. <i>AIP Advances</i> , 2015 , 5, 107202	1.5	4
40	A bionic approach for topology optimization for tension-only or compression-only design. <i>Journal of Bionic Engineering</i> , 2010 , 7, 397-404	2.7	4
39	Shrinkage-expansion of a tri-isometric knitting from graphene ribbons at finite temperature. <i>Materials and Design</i> , 2020 , 185, 108269	8.1	4
38	Nanospring from partly hydrogenated graphene ribbon: A molecular dynamics study. <i>Applied Surface Science</i> , 2021 , 541, 148507	6.7	4
37	Thermal expansion producing easier formation of a black phosphorus nanotube from nanoribbon on carbon nanotube. <i>Nanotechnology</i> , 2018 , 29, 055603	3.4	4
36	Efficient selection methods for black phosphorene nanoribbons. <i>Nanoscale</i> , 2018 , 10, 4385-4390	7.7	3
35	A nano continuous variable transmission system from nanotubes. <i>Nanotechnology</i> , 2018 , 29, 075707	3.4	3
34	Energy absorption induced oscillation of a rotating curved carbon nanotube in a nano bearing. <i>Computational Materials Science</i> , 2016 , 115, 72-76	3.2	3

33	Critical Output Torque of a GHz CNT-Based Rotation Transmission System Via Axial Interface Friction at Low Temperature. <i>International Journal of Molecular Sciences</i> , 2019 , 20,	6.3	3
32	Conditions for escape of a rotor in a rotary nanobearing from short triple-wall nanotubes. <i>Scientific Reports</i> , 2017 , 7, 6772	4.9	3
31	Layout Optimization of Ill-Loaded Multiphase Bi-Modulus Materials. <i>International Journal of Applied Mechanics</i> , 2016 , 08, 1650038	2.4	3
30	A nano converter from carbon nanotubes with multiple output signals. <i>Computational Materials Science</i> , 2016 , 111, 263-268	3.2	2
29	Rotation-excited perfect oscillation of a tri-walled nanotube-based oscillator at ultralow temperature. <i>Nanotechnology</i> , 2017 , 28, 155701	3.4	2
28	Brittle-to-ductile transition in fracture of few-layered black phosphorus ribbons under uniaxial stretching. <i>Computational Materials Science</i> , 2018 , 144, 210-215	3.2	2
27	Recoverability of a gigahertz rotation-translation nanoconverter with hydrogenated deformable rotor at room temperature. <i>Nanotechnology</i> , 2019 , 30, 465301	3.4	2
26	Length difference effect on dynamic behaviors of double-walled carbon nanotubes. <i>Mechanics and Industry</i> , 2015 , 16, 110	0.8	2
25	Topology Optimization for Human Proximal Femur Considering Bi-modulus Behavior of Cortical Bones. <i>Springer Proceedings in Mathematics and Statistics</i> , 2015 , 263-270	0.2	2
24	Carbon-nanotube Nanomotor Driven by Graphene Origami. <i>Physical Review Applied</i> , 2021 , 15,	4.3	2
23	Friction effect of stator in a multi-walled CNT-based rotation transmission system. <i>Nanotechnology</i> , 2018 , 29, 045706	3.4	2
22	Thermal Vibration-Induced Rotation of Nano-Wheel: A Molecular Dynamics Study. <i>International Journal of Molecular Sciences</i> , 2018 , 19,	6.3	2
21	Self-assembly of nano-scroll/nano-helix from a diamondene nanoribbon with one passivated surface. <i>Applied Surface Science</i> , 2020 , 527, 146848	6.7	1
20	Vibration behavior of diamondene nano-ribbon passivated by hydrogen. <i>Scientific Reports</i> , 2019 , 9, 15783	3.9	1
19	Stiffness design of a continuum under Ill-load cases by fractional-norm objective formulation. <i>Optimization and Engineering</i> , 2014 , 15, 927-944	2.1	1
18	An Optimal Construction of a Hydropower Arch Gate. <i>Advanced Materials Research</i> , 2011 , 346, 109-115	0.5	1
17	Strength analysis of a defective diamondene nanoribbon under uni-axial tension. <i>Computational Materials Science</i> , 2020 , 173, 109459	3.2	1
16	Thermal shrinkage and stability of diamondene nanotubes. <i>Nanotechnology</i> , 2019 , 30, 075702	3.4	1

15	Position effects of the graphene-origami actuators on the rotation of a CNT nanomotor. <i>Physical Chemistry Chemical Physics</i> , 2021 , 23, 18893-18898	3.6	1
14	A heat and force locating sensor with nanoscale precision: a knitted graphene sheet. <i>Nanoscale</i> , 2021 , 13, 5826-5833	7.7	1
13	Efficiency of CNT-based rotation transmission nanosystem in water. <i>Nanotechnology</i> , 2021 ,	3.4	1
12	Interfacial thermal conductance of buckling carbon nanotubes. <i>AIP Advances</i> , 2018 , 8, 065116	1.5	1
11	Thermal stability of a nanoporous graphene membrane candidate from an orthogonal-diagonal nanotexture: A molecular dynamics test. <i>Applied Surface Science</i> , 2021 , 558, 149955	6.7	1
10	CNT-motor driven by competition between thermal fluctuation and REF. <i>International Journal of Mechanical Sciences</i> , 2022 , 225, 107372	5.5	1
9	A method for designing tunable chiral mechanical carbon networks for energy storage. <i>Physical Chemistry Chemical Physics</i> , 2021 , 23, 26209-26218	3.6	0
8	Rotation-induced axial oscillation of a composite nanoconverter at low temperature. <i>JVC/Journal of Vibration and Control</i> , 2021 , 27, 1113-1122	2	0
7	Multiple materials layout optimization in a layered structure. <i>Mechanics and Industry</i> , 2016 , 17, 404	0.8	
6	An accurate test method for measuring static compressive properties of a material. <i>Australian Journal of Mechanical Engineering</i> , 2017 , 15, 46-54	1	
5	A New Design of a Hydraulic Steel Radial Gate with Two Oblique Arms by Topology Optimization. <i>Advanced Materials Research</i> , 2013 , 712-715, 2906-2912	0.5	
4	Mechanical Properties of Single-Walled Carbon Nanotubes under Large Axial Deformation. <i>Advanced Materials Research</i> , 2010 , 97-101, 3910-3915	0.5	
3	Effects of Moduli Differences on Layout Optimization of a Continuum with Multiple Materials. <i>Advanced Materials Research</i> , 2011 , 217-218, 1414-1418	0.5	
2	Volumes Constrained Layout Optimization of a Continuum with Multiple Materials. <i>Key Engineering Materials</i> , 2011 , 480-481, 619-623	0.4	
1	Nonlinear vibration of a buckled/damaged BNC nanobeam transversally impacted by a high-speed C. <i>Scientific Reports</i> , 2021 , 11, 635	4.9	