Kun Cai

List of Publications by Year in Descending Order

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	CNT-motor driven by competition between thermal fluctuation and REF. *International Journal of Mechanical Sciences*, **2022**, 225, 107372	5.5	1
103	A method for designing tunable chiral mechanical carbon networks for energy storage. *Physical Chemistry Chemical Physics*, **2021**, 23, 26209-26218	3.6	0
102	Carbon-nanotube Nanomotor Driven by Graphene Origami. *Physical Review Applied*, **2021**, 15,	4.3	2
101	Rotation-induced axial oscillation of a composite nanoconvertor at low temperature. *JVC/Journal of Vibration and Control*, **2021**, 27, 1113-1122	2	0
100	Controlling the maximum first principal stress in topology optimization. *Structural and Multidisciplinary Optimization*, **2021**, 63, 327-339	3.6	11
99	Nanospring from partly hydrogenated graphene ribbon: A molecular dynamics study. *Applied Surface Science*, **2021**, 541, 148507	6.7	4
98	Position effects of the graphene-origami actuators on the rotation of a CNT nanomotor. *Physical Chemistry Chemical Physics*, **2021**, 23, 18893-18898	3.6	1
97	A heat and force locating sensor with nanoscale precision: a knitted graphene sheet. *Nanoscale*, **2021**, 13, 5826-5833	7.7	1
96	Efficiency of CNT-based rotation transmission nanosystem in water. *Nanotechnology*, **2021**,	3.4	1
95	Thermal stability of a nanoporous graphene membrane candidate from an orthogonal-diagonal nanotexture: A molecular dynamics test. *Applied Surface Science*, **2021**, 558, 149955	6.7	1
94	Nonlinear vibration of a buckled/damaged BNC nanobeam transversally impacted by a high-speed C. *Scientific Reports*, **2021**, 11, 635	4.9	
93	Self-assembly of nano-scroll/nano-helix from a diamondene nanoribbon with one passivated surface. *Applied Surface Science*, **2020**, 527, 146848	6.7	1
92	A GHz rotary nanoflake driven by diamond needles: A molecular dynamics study. *Materials and Design*, **2020**, 191, 108593	8.1	6
91	A direct approach to controlling the topology in structural optimization. *Computers and Structures*, **2020**, 227, 106141	4.5	17
90	Stable rotation transmission of a CNT-based nanogear drive system with intersecting axes at low temperature. *Surface Science*, **2020**, 693, 121548	1.8	6
89	Strength analysis of a defective diamondene nanoribbon under uni-axial tension. *Computational Materials Science*, **2020**, 173, 109459	3.2	1
88	Unusual thermal properties of graphene origami crease: A molecular dynamics study. *Green Energy and Environment*, **2020**,	5.7	5

87	Mechanical properties of bonded few-layered graphene via uniaxial test: A molecular dynamics simulation study. *Computational Materials Science*, **2020**, 172, 109295	3.2	7
86	Shrinkage-expansion of a tri-isometric knitting from graphene ribbons at finite temperature. *Materials and Design*, **2020**, 185, 108269	8.1	4
85	Nonlinear dynamic behavior of a clamped□clamped beam from BNC nanotube impacted by fullerene. *Nonlinear Dynamics*, **2019**, 96, 1133-1145	5	9
84	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	3.4	7
83	Thermal Conductivity of Two Types of 2D Carbon Allotropes: a Molecular Dynamics Study. *Nanoscale Research Letters*, **2019**, 14, 7	5	6
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,	6.3	3
81	Recoverability of a gigahertz rotation-translation nanoconvertor with hydrogenated deformable rotor at room temperature. *Nanotechnology*, **2019**, 30, 465301	3.4	2
80	Fully Atomistic Molecular Dynamics Computation of Physico-Mechanical Properties of PB, PS, and SBS. *Nanomaterials*, **2019**, 9,	5.4	8
79	Vibration behavior of diamondene nano-ribbon passivated by hydrogen. *Scientific Reports*, **2019**, 9, 15783	4.9	1
78	Thermal shrinkage and stability of diamondene nanotubes. *Nanotechnology*, **2019**, 30, 075702	3.4	1
77	Nanotextures from orthogonal graphene ribbons: Thermal stability evaluation. *Carbon*, **2019**, 144, 81-90	10.4	8
76	Coupling effect of van der Waals, centrifugal, and frictional forces on a GHz rotation-translation nano-convertor. *Physical Chemistry Chemical Physics*, **2018**, 21, 359-368	3.6	4
75	Absorption and temperature effects on the tensile strength of a black phosphorus ribbon in argon environment. *Computational Materials Science*, **2018**, 150, 15-23	3.2	5
74	Efficient selection methods for black phosphorene nanoribbons. *Nanoscale*, **2018**, 10, 4385-4390	7.7	3
73	Critical conditions for escape of a high-speed fullerene from a BNC nanobeam after collision. *Scientific Reports*, **2018**, 8, 913	4.9	10
72	Local strain field engineering on interfacial thermal resistance of graphene nanoribbon. *Applied Physics Letters*, **2018**, 112, 021604	3.4	7
71	Brittle-to-ductile transition in fracture of few-layered black phosphorus ribbons under uniaxial stretching. *Computational Materials Science*, **2018**, 144, 210-215	3.2	2
70	A nano continuous variable transmission system from nanotubes. *Nanotechnology*, **2018**, 29, 075707	3.4	3

69	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	3.6	9
68	Buckling behavior of nanotubes from diamondene. *Materials and Design*, **2018**, 149, 34-42	8.1	16
67	Dynamic behavior of a rotary nanomotor in argon environments. *Scientific Reports*, **2018**, 8, 3511	4.9	6
66	Thermal and tensile properties of diamondene at finite temperature: A molecular dynamics study. *Materials and Design*, **2018**, 156, 125-134	8.1	12
65	Rotational behavior of a nanoring protected by argon. *Computational Materials Science*, **2018**, 154, 132-137	3.1	7
64	Softening to hardening of stretched diamondene nanotubes. *Physical Chemistry Chemical Physics*, **2018**, 20, 21136-21143	3.6	6
63	Thermal expansion producing easier formation of a black phosphorus nanotube from nanoribbon on carbon nanotube. *Nanotechnology*, **2018**, 29, 055603	3.4	4
62	Friction effect of stator in a multi-walled CNT-based rotation transmission system. *Nanotechnology*, **2018**, 29, 045706	3.4	2
61	Thermal Vibration-Induced Rotation of Nano-Wheel: A Molecular Dynamics Study. *International Journal of Molecular Sciences*, **2018**, 19,	6.3	2
60	Initial Relative Position Influencing Self-Assembly of a Black Phosphorus Ribbon on a CNT. *International Journal of Molecular Sciences*, **2018**, 19,	6.3	6
59	Interfacial thermal conductance of buckling carbon nanotubes. *AIP Advances*, **2018**, 8, 065116	1.5	1
58	Interfacial thermal conductance in graphene/black phosphorus heterogeneous structures. *Carbon*, **2017**, 117, 399-410	10.4	58
57	Winding a nanotube from black phosphorus nanoribbon onto a CNT at low temperature: A molecular dynamics study. *Materials and Design*, **2017**, 121, 406-413	8.1	25
56	Robust rotation of rotor in a thermally driven nanomotor. *Scientific Reports*, **2017**, 7, 46159	4.9	8
55	Self-Assembly of a Jammed Black Phosphorus Nanoribbon on a Fixed Carbon Nanotube. *Journal of Physical Chemistry C*, **2017**, 121, 10174-10181	3.8	16
54	Significance tests on the output power of a thermally driven rotary nanomotor. *Nanotechnology*, **2017**, 28, 215705	3.4	12
53	Buckling behaviour of composites with double walled nanotubes from carbon and phosphorus. *Physical Chemistry Chemical Physics*, **2017**, 19, 10922-10930	3.6	13
52	Rotation-excited perfect oscillation of a tri-walled nanotube-based oscillator at ultralow temperature. *Nanotechnology*, **2017**, 28, 155701	3.4	2

51	Dynamic behavior of a black phosphorus and carbon nanotube composite system. *Journal Physics D: Applied Physics*, **2017**, 50, 025304	3	16
50	Self-assembly of a parallelogram black phosphorus ribbon into a nanotube. *Scientific Reports*, **2017**, 7, 12951	4.9	7
49	Spectrum of Temperature-Dependent Rotational Frequency of the Rotor in a Thermally Diven Rotary Nanomotor. *Journal of Physical Chemistry C*, **2017**, 121, 16985-16995	3.8	8
48	Fabrication of an ideal nanoring from a black phosphorus nanoribbon upon movable bundling carbon nanotubes. *Nanotechnology*, **2017**, 28, 385603	3.4	7
47	Conditions for escape of a rotor in a rotary nanobearing from short triple-wall nanotubes. *Scientific Reports*, **2017**, 7, 6772	4.9	3
46	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	3.6	10
45	An accurate test method for measuring static compressive properties of a material. *Australian Journal of Mechanical Engineering*, **2017**, 15, 46-54	1	
44	A nano converter from carbon nanotubes with multiple output signals. *Computational Materials Science*, **2016**, 111, 263-268	3.2	2
43	Effects of size and surface on the auxetic behaviour of monolayer graphene kirigami. *Scientific Reports*, **2016**, 6, 35157	4.9	23
42	Multiple materials layout optimization in a layered structure. *Mechanics and Industry*, **2016**, 17, 404	0.8	
41	Thermal stability of a free nanotube from single-layer black phosphorus. *Nanotechnology*, **2016**, 27, 235703	3.4	26
40	Thermal conductivity of graphene kirigami: Ultralow and strain robustness. *Carbon*, **2016**, 104, 203-213	10.4	49
39	Strength and stability analysis of a single-walled black phosphorus tube under axial compression. *Nanotechnology*, **2016**, 27, 275701	3.4	16
38	Dynamic response of a carbon nanotube-based rotary nano device with different carbon-hydrogen bonding layout. *Applied Surface Science*, **2016**, 365, 352-356	6.7	9
37	Quantitative control of a rotary carbon nanotube motor under temperature stimulus. *Nanotechnology*, **2016**, 27, 055706	3.4	30
36	Optimal layout of multiple bi-modulus materials. *Structural and Multidisciplinary Optimization*, **2016**, 53, 801-811	3.6	15
35	Damage behavior of a bonded sandwich beam with corrugated core under 3-point bending. *Materials and Design*, **2016**, 95, 165-172	8.1	11
34	Energy absorption induced oscillation of a rotating curved carbon nanotube in a nano bearing. *Computational Materials Science*, **2016**, 115, 72-76	3.2	3

33	Over-Speeding Rotational Transmission of a Carbon Nanotube-Based Bearing. *Journal of Physical Chemistry C*, **2016**, 120, 5797-5803	3.8	26
32	A method for measuring rotation of a thermal carbon nanomotor using centrifugal effect. *Scientific Reports*, **2016**, 6, 27338	4.9	12
31	A nanoengine governor based on the end interfacial effect. *Nanotechnology*, **2016**, 27, 495704	3.4	6
30	Molecular dynamics study on welding a defected graphene by a moving fullerene. *Applied Surface Science*, **2016**, 377, 213-220	6.7	10
29	Configuration jumps of rotor in a nanomotor from carbon nanostructures. *Carbon*, **2016**, 101, 168-176	10.4	41
28	Layout optimization for multi-bi-modulus materials system under multiple load cases. *Engineering With Computers*, **2016**, 32, 745-753	4.5	6
27	Configuration transition between graphene and nanoscroll using kinetic energy injecting method. *Computational Materials Science*, **2016**, 125, 146-153	3.2	6
26	Rotation measurements of a thermally driven rotary nanomotor with a spring wing. *Physical Chemistry Chemical Physics*, **2016**, 18, 22478-86	3.6	24
25	Layout Optimization of Ill-Loaded Multiphase Bi-Modulus Materials. *International Journal of Applied Mechanics*, **2016**, 08, 1650038	2.4	3
24	Dynamic behavior of curved double-wall carbon nanotubes with rotating inner tube. *RSC Advances*, **2015**, 5, 29908-29913	3.7	9
23	A nano universal joint made from curved double-walled carbon nanotubes. *Applied Physics Letters*, **2015**, 106, 241907	3.4	29
22	Study on the dynamics responses of a transmission system made from carbon nanotubes. *Journal of Applied Physics*, **2015**, 117, 234305	2.5	17
21	Unwinding of a carbon nanoscroll due to high speed rotation. *AIP Advances*, **2015**, 5, 107202	1.5	4
20	Length difference effect on dynamic behaviors of double-walled carbon nanotubes. *Mechanics and Industry*, **2015**, 16, 110	0.8	2
19	A stable high-speed rotational transmission system based on nanotubes. *Applied Physics Letters*, **2015**, 106, 021909	3.4	35
18	Temperature effects on a motion transmission device made from carbon nanotubes: a molecular dynamics study. *RSC Advances*, **2015**, 5, 66438-66450	3.7	5
17	Topology Optimization for Human Proximal Femur Considering Bi-modulus Behavior of Cortical Bones. *Springer Proceedings in Mathematics and Statistics*, **2015**, 263-270	0.2	2
16	Stiffness design of a continuum under Ill-load cases by fractional-norm objective formulation. *Optimization and Engineering*, **2014**, 15, 927-944	2.1	1

15	Post-buckling solutions of hyper-elastic beam by canonical dual finite element method. *Mathematics and Mechanics of Solids*, **2014**, 19, 659-671	2.3	18
14	Self-excited oscillation of rotating double-walled carbon nanotubes. *Nano Letters*, **2014**, 14, 2558-62	11.5	83
13	Postbuckling analysis of a nonlinear beam with axial functionally graded material. *Journal of Engineering Mathematics*, **2014**, 88, 121-136	1.2	10
12	Topology optimization of continuum structures with bi-modulus materials. *Engineering Optimization*, **2014**, 46, 244-260	2	11
11	Topology optimization of bi-modulus structures using the concept of bone remodeling. *Engineering Computations*, **2014**, 31, 1361-1378	1.4	7
10	Robust topology optimisation of bi-modulus structures. *CAD Computer Aided Design*, **2013**, 45, 1159-1169	2.9	11
9	Compliance optimization of a continuum with bimodulus material under multiple load cases. *CAD Computer Aided Design*, **2013**, 45, 195-203	2.9	11
8	A New Design of a Hydraulic Steel Radial Gate with Two Oblique Arms by Topology Optimization. *Advanced Materials Research*, **2013**, 712-715, 2906-2912	0.5	
7	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	3.6	29
6	Effects of Moduli Differences on Layout Optimization of a Continuum with Multiple Materials. *Advanced Materials Research*, **2011**, 217-218, 1414-1418	0.5	
5	Volumes Constrained Layout Optimization of a Continuum with Multiple Materials. *Key Engineering Materials*, **2011**, 480-481, 619-623	0.4	
4	An Optimal Construction of a Hydropower Arch Gate. *Advanced Materials Research*, **2011**, 346, 109-115	0.5	1
3	Mechanical Properties of Single-Walled Carbon Nanotubes under Large Axial Deformation. *Advanced Materials Research*, **2010**, 97-101, 3910-3915	0.5	
2	A bionic approach for topology optimization for tension-only or compression-only design. *Journal of Bionic Engineering*, **2010**, 7, 397-404	2.7	4
1	Stiffness Design of Continuum Structures by a Bionics Topology Optimization Method. *Journal of Applied Mechanics, Transactions ASME*, **2008**, 75,	2.7	9