Lifeng Wang

List of Publications by Year
in descending order

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147 papers	5,800 citations	76294 40 h-index	82499 72 g-index
147 all docs	147 docs citations	147 times ranked	4819 citing authors

#	Article	IF	Citations
1	Flexural wave propagation in single-walled carbon nanotubes. Physical Review B, 2005, 71, .	1.1	453
2	Bending behavior of sandwich composite structures with tunable 3D-printed core materials. Composite Structures, 2017, 175, 46-57.	3.1	272
3	Lattice Metamaterials with Mechanically Tunable Poissonâ€™s Ratio for Vibration Control. Physical Review Applied, 2017, 7, .	1.5	250
4	Exploiting negative Poisson's ratio to design 3D-printed composites with enhanced mechanical properties. Materials and Design, 2018, 142, 247-258.	3.3	234
5	Coâ€Continuous Composite Materials for Stiffness, Strength, and Energy Dissipation. Advanced Materials, 2011, 23, 1524-1529.	11.1	218
6	3D printed hierarchical honeycombs with shape integrity under large compressive deformations. Materials and Design, 2018, 137, 226-234.	3.3	189
7	Topology optimization of multi-material negative Poissonâ€™s ratio metamaterials using a reconciled level set method. CAD Computer Aided Design, 2017, 83, 15-32.	1.4	177
8	Size Dependence of the Thin-Shell Model for Carbon Nanotubes. Physical Review Letters, 2005, 95, 105501.	2.9	157
9	Mechanical properties of sandwich composites with 3d-printed auxetic and non-auxetic lattice cores under low velocity impact. Materials and Design, 2018, 160, 1305-1321.	3.3	145
10	Thermally Tunable, Selfâ€Healing Composites for Soft Robotic Applications. Macromolecular Materials and Engineering, 2014, 299, 1279-1284.	1.7	135
11	An experimental investigation of the temperature effect on the mechanics of carbon fiber reinforced polymer composites. Composites Science and Technology, 2018, 154, 53-63.	3.8	133
12	Hierarchical honeycomb lattice metamaterials with improved thermal resistance and mechanical properties. Composite Structures, 2016, 152, 395-402.	3.1	131
13	Elucidation of the Reinforcing Mechanism in Carbon Nanotube/Rubber Nanocomposites. ACS Nano, 2011, 5, 3858-3866.	7.3	117
14	Super Deformability and Youngâ€™s Modulus of GaAs Nanowires. Advanced Materials, 2011, 23, 1356-1360.	11.1	114
15	3D printing of biomimetic composites with improved fracture toughness. Acta Materialia, 2019, 173, 61-73.	3.8	113
16	Biomimetic architected materials with improved dynamic performance. Journal of the Mechanics and Physics of Solids, 2019, 125, 178-197.	2.3	108
17	Periodic Bicontinuous Composites for High Specific Energy Absorption. Nano Letters, 2012, 12, 4392-4396.	4.5	95
18	Periodic co-continuous acoustic metamaterials with overlapping locally resonant and Bragg band gaps. Applied Physics Letters, 2014, 105, .	1.5	88

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19	Hoberman-sphere-inspired lattice metamaterials with tunable negative thermal expansion. Composite Structures, 2018, 189, 586-597.	3.1	88
20	Wrinkled surface topographies of electrospun polymer fibers. Applied Physics Letters, 2009, 94, .	1.5	87
21	Mechanically tunable phononic band gaps in three-dimensional periodic elastomeric structures. International Journal of Solids and Structures, 2012, 49, 2881-2885.	1.3	85
22	Validation of the non-local elastic shell model for studying longitudinal waves in single-walled carbon nanotubes. Nanotechnology, 2006, 17, 1408-1415.	1.3	78
23	Broadband and multiband vibration mitigation in lattice metamaterials with sinusoidally-shaped ligaments. Extreme Mechanics Letters, 2017, 17, 24-32.	2.0	77
24	Engineering lattice metamaterials for extreme property, programmability, and multifunctionality. Journal of Applied Physics, 2020, 127, .	1.1	77
25	Enhanced Energy Dissipation in Periodic Epoxy Nanoframes. Nano Letters, 2010, 10, 2592-2597.	4.5	68
26	Enhanced fracture toughness in architected interpenetrating phase composites by 3D printing. Composites Science and Technology, 2018, 167, 251-259.	3.8	67
27	Designing Phononic Crystals with Wide and Robust Band Gaps. Physical Review Applied, 2018, 9, .	1.5	66
28	Coarse-grained potentials of single-walled carbon nanotubes. Journal of the Mechanics and Physics of Solids, 2014, 71, 197-218.	2.3	61
29	Bio-inspired heterogeneous composites for broadband vibration mitigation. Scientific Reports, 2016, 5, 17865.	1.6	59
30	Multiband wave filtering and waveguiding in bio-inspired hierarchical composites. Extreme Mechanics Letters, 2015, 5, 18-24.	2.0	57
31	Learning from nature: Use material architecture to break the performance tradeoffs. Materials and Design, 2019, 168, 107650.	3.3	55
32	Novel strategy for mechanically tunable and bioactive metal implants. Biomaterials, 2015, 37, 49-61.	5.7	51
33	Harnessing out-of-plane deformation to design 3D architected lattice metamaterials with tunable Poissonâ€™s ratio. Scientific Reports, 2017, 7, 8949.	1.6	50
34	Combination of stiffness, strength, and toughness in 3D printed interlocking nacre-like composites. Extreme Mechanics Letters, 2020, 35, 100621.	2.0	50
35	Direct Quantification of the Mechanical Anisotropy and Fracture of an Individual Exoskeleton Layer via Uniaxial Compression of Micropillars. Nano Letters, 2011, 11, 3868-3874.	4.5	49
36	Anisotropic design of a multilayered biological exoskeleton. Journal of Materials Research, 2009, 24, 3477-3494.	1.2	48

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37	Bioinspired Structural Material Exhibiting Postâ€Yield Lateral Expansion and Volumetric Energy Dissipation During Tension. Advanced Functional Materials, 2010, 20, 3025-3030.	7.8	46
38	Harnessing structural hierarchy to design stiff and lightweight phononic crystals. Extreme Mechanics Letters, 2016, 9, 91-96.	2.0	45
39	Prediction of the Effective Thermal Conductivity of Hollow Sphere Foams. ACS Applied Energy Materials, 2018, 1, 1146-1157.	2.5	45
40	Enhanced mechanical properties of carbon nanotube networks by mobile and discrete binders. Carbon, 2013, 64, 237-244.	5.4	44
41	Tough and Strong: Cross-Lamella Design Imparts Multifunctionality to Biomimetic Nacre. ACS Nano, 2020, 14, 9771-9779.	7.3	41
42	Group velocity of wave propagation in carbon nanotubes. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2008, 464, 1423-1438.	1.0	39
43	Vibration characteristic and flutter analysis of elastically restrained stiffened functionally graded plates in thermal environment. International Journal of Mechanical Sciences, 2019, 157-158, 872-884.	3.6	38
44	Tunable band gaps in bio-inspired periodic composites with nacre-like microstructure. Journal of Applied Physics, 2014, 116, .	1.1	37
45	Plastic Dissipation Mechanisms in Periodic Microframeâ€Structured Polymers. Advanced Functional Materials, 2009, 19, 1343-1350.	7.8	36
46	Enhanced stiffness, strength and energy absorption for co-continuous composites with liquid filler. Composite Structures, 2015, 128, 274-283.	3.1	35
47	Thermal vibration of carbon nanotubes predicted by beam models and molecular dynamics. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2010, 466, 2325-2340.	1.0	34
48	Finite element method of bond-based peridynamics and its ABAQUS implementation. Engineering Fracture Mechanics, 2019, 206, 408-426.	2.0	34
49	Enhanced Mechanical Properties of Prestressed Multiâ€Walled Carbon Nanotubes. Small, 2008, 4, 733-737.	5.2	30
50	Growth strain-induced wrinkled membrane morphology of white blood cells. Soft Matter, 2011, 7, 11319.	1.2	30
51	On the tool wear behavior during ultrasonic vibration-assisted form grinding with alumina wheels. Ceramics International, 2021, 47, 26465-26474.	2.3	29
52	Acoustic band gaps of three-dimensional periodic polymer cellular solids with cubic symmetry. Journal of Applied Physics, 2013, 114, .	1.1	28
53	Flexural wave dispersion in multi-walled carbon nanotubes conveying fluids. Acta Mechanica Solida Sinica, 2009, 22, 623-629.	1.0	27
54	A mesh-free vibration analysis of strain gradient nano-beams. Engineering Analysis With Boundary Elements, 2017, 84, 231-236.	2.0	25

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55	Ultrawide coupled bandgap in hybrid periodic system with multiple resonators. Journal of Applied Physics, 2020, 127, .	1.1	25
56	Mechanics of Indentation into Micro- and Nanoscale Forests of Tubes, Rods, or Pillars. Journal of Engineering Materials and Technology, Transactions of the ASME, 2011, 133, .	0.8	24
57	Anomalous elastic buckling of layered crystalline materials in the absence of structure slenderness. Journal of the Mechanics and Physics of Solids, 2016, 88, 83-99.	2.3	24
58	Vibration of single-walled carbon nanotubes with elastic boundary conditions. International Journal of Mechanical Sciences, 2017, 122, 156-166.	3.6	24
59	A comparative study of two molecular mechanics models based on harmonic potentials. Journal of Applied Physics, 2013, 113, .	1.1	23
60	Thermal vibration of double-walled carbon nanotubes predicted via double-Euler-beam model and molecular dynamics. Acta Mechanica, 2012, 223, 2107-2115.	1.1	21
61	The two-dimensional elasticity of a chiral hinge lattice metamaterial. International Journal of Solids and Structures, 2018, 141-142, 254-263.	1.3	21
62	Modeling the Large Deformation and Microstructure Evolution of Nonwoven Polymer Fiber Networks. Journal of Applied Mechanics, Transactions ASME, 2019, 86, .	1.1	21
63	A comprehensive study on the coupled multi-mode vibrations of cylindrical shells. Mechanical Systems and Signal Processing, 2022, 169, 108730.	4.4	21
64	Thermal vibration of single-walled carbon nanotubes with quantum effects. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2014, 470, 20140087.	1.0	20
65	Tunable stimulus-responsive friction mechanisms of polyelectrolyte films and tube forests. Soft Matter, 2012, 8, 8642.	1.2	19
66	Thermal vibration of a rectangular single-layered graphene sheet with quantum effects. Journal of Applied Physics, 2014, 115, 233515.	1.1	19
67	Instability-Triggered Triply Negative Mechanical Metamaterial. Physical Review Applied, 2019, 12, .	1.5	19
68	Parametric optimization of an aperiodic metastructure based on genetic algorithm. International Journal of Mechanical Sciences, 2022, 214, 106878.	3.6	19
69	Active multifunctional composite metamaterials with negative effective mass density and negative effective modulus. Composite Structures, 2022, 291, 115586.	3.1	19
70	Stochastically driven vibrations of single-layered graphene sheets. Science China: Physics, Mechanics and Astronomy, 2012, 55, 1103-1110.	2.0	18
71	Thermal vibration of a single-walled carbon nanotube predicted by semiquantum molecular dynamics. Physical Chemistry Chemical Physics, 2015, 17, 5194-5201.	1.3	17
72	Microscopic origins of the crystallographically preferred growth in evaporation-induced colloidal crystals. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	17

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73	Ultrawide bandgap in metamaterials via coupling of locally resonant and Bragg bandgaps. Acta Mechanica, 2022, 233, 477-493.	1.1	17
74	Mechanics of network materials with responsive crosslinks. Comptes Rendus - Mecanique, 2014, 342, 264-272.	2.1	16
75	Thermal vibration of a simply supported single-walled carbon nanotube with thermal stress. Acta Mechanica, 2016, 227, 1957-1967.	1.1	16
76	Coupling between flexural modes in free vibration of single-walled carbon nanotubes. AIP Advances, 2015, 5, 127110.	0.6	15
77	Thermal vibration of a circular single-layered graphene sheet with simply supported or clamped boundary. Journal of Sound and Vibration, 2015, 349, 206-215.	2.1	15
78	Strain Gradient Finite Element Analysis on the Vibration of Double-Layered Graphene Sheets. International Journal of Computational Methods, 2016, 13, 1650011.	0.8	15
79	Analytical solutions for thermal vibration of nanobeams with elastic boundary conditions. Acta Mechanica Solida Sinica, 2017, 30, 474-483.	1.0	15
80	An ultrawide-zero-frequency bandgap metamaterial with negative moment of inertia and stiffness. New Journal of Physics, 2021, 23, 043003.	1.2	15
81	Geometrically Controlled Mechanically Responsive Polyelectrolyte Tube Arrays. Advanced Materials, 2011, 23, 4667-4673.	11.1	14
82	Thermal vibration of rectangular single-layered black phosphorus predicted by orthotropic plate model. Journal of Applied Physics, 2018, 123, 095101.	1.1	14
83	Thermo-Mechanical Vibration Analysis of Size-Dependent Functionally Graded Micro-Beams with General Boundary Conditions. International Journal of Applied Mechanics, 2018, 10, 1850088.	1.3	14
84	Nonlinear forced vibration of bilayer van der Waals materials drum resonator. Journal of Applied Physics, 2020, 128, .	1.1	14
85	FREE VIBRATION ANALYSIS OF DOUBLE-WALLED CARBON NANOTUBES USING THE SMOOTHED FINITE ELEMENT METHOD. International Journal of Computational Methods, 2011, 08, 879-890.	0.8	13
86	Analytical solutions for the thermal vibration of strain gradient beams with elastic boundary conditions. Acta Mechanica, 2018, 229, 2203-2219.	1.1	13
87	Nonlinear vibrations of circular single-layer black phosphorus resonators. Applied Physics Letters, 2018, 113, .	1.5	13
88	Harnessing 3D printed residual stress to design heat-shrinkable metamaterials. Results in Physics, 2018, 11, 85-95.	2.0	12
89	Vibration of a Multilayered Graphene Sheet With Initial Stress. Journal of Nanotechnology in Engineering and Medicine, 2010, 1, .	0.8	11
90	Vibration of Cantilevered Double-Walled Carbon Nanotubes Predicted by Timoshenko Beam Model and Molecular Dynamics. International Journal of Computational Methods, 2015, 12, 1540017.	0.8	11

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91	Complex Periodic Bursting Structures in the Rayleighâ€“van der Polâ€“Duffing Oscillator. Journal of Nonlinear Science, 2022, 32, 1.	1.0	11
92	Thermal Vibrations of Single-Layered Graphene Sheets by Molecular Dynamics. Journal of Nanoscience and Nanotechnology, 2013, 13, 1059-1062.	0.9	10
93	Nonlocal active metamaterial with feedback control for tunable bandgap and broadband nonreciprocity. International Journal of Mechanical Sciences, 2022, 219, 107131.	3.6	10
94	Semi-analytical and experimental studies on travelling wave vibrations of a moderately thick cylindrical shell subject to a spinning motion. Journal of Sound and Vibration, 2022, 535, 117095.	2.1	10
95	Timoshenko beam model for vibrational analysis of double-walled carbon nanotubes bridged on substrate. Current Applied Physics, 2017, 17, 1670-1690.	1.1	9
96	Critical examination on in-plane inertias for vibration characteristics of cylindrical shells. Journal of Sound and Vibration, 2021, 511, 116350.	2.1	9
97	Complex mixed-mode vibration types triggered by the pitchfork bifurcation delay in a driven van der Pol-Duffing oscillator. Applied Mathematics and Computation, 2021, 411, 126522.	1.4	9
98	ISOLATION OF SURFACE WAVE-INDUCED VIBRATION USING PERIODICALLY MODULATED PILES. International Journal of Applied Mechanics, 2014, 06, 1450042.	1.3	8
99	Optimization of a type of elastic metamaterial for broadband wave suppression. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, .	1.0	8
100	Vibration analysis of a strain gradient plate model via a mesh-free moving Kriging Interpolation Method. Engineering Analysis With Boundary Elements, 2022, 135, 156-166.	2.0	8
101	Reversible high-pressure carbon nanotube vessel. Physical Review B, 2010, 81, .	1.1	7
102	Strength, plasticity, interlayer interactions and phase transition of low-dimensional nanomaterials under multiple fields. Acta Mechanica Solida Sinica, 2012, 25, 221-243.	1.0	7
103	Hierarchical-structure induced adjustable deformation of super carbon nanotubes with radial shrinkage up to 66%. Carbon, 2017, 125, 289-298.	5.4	7
104	Vibration of two-dimensional hexagonal boron nitride. Theoretical and Applied Mechanics Letters, 2018, 8, 408-414.	1.3	7
105	Free vibration of single-layered MoS2suspended over a circular hole. Journal of Applied Physics, 2019, 126, 135106.	1.1	7
106	Thermal vibration of a single-layered graphene with initial stress predicted by semiquantum molecular dynamics. Materials Research Express, 2016, 3, 095601.	0.8	6
107	Effect of Nanosecond Laser Beam Shaping on Cu(In,Ga)Se₂ Thin Film Solar Cell Scribing. ACS Applied Energy Materials, 2019, 2, 5057-5065.	2.5	6
108	Effects of the Van der Waals Force on the Vibration of Typical Multi-layered Two-dimensional Nanostructures. Scientific Reports, 2020, 10, 644.	1.6	6

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109	Thermally stimulated nonlinear vibration of rectangular single-layered black phosphorus. Journal of Applied Physics, 2018, 124, 135101.	1.1	5
110	Hypersonic Aeroelastic Response of Elastic Boundary Panel Based on a Modified Fourier Series Method. International Journal of Aerospace Engineering, 2019, 2019, 1-13.	0.5	5
111	Nonlinear vibrations of helical graphene resonators in the dynamic nano-indentation testing. Nanotechnology, 2020, 31, 025709.	1.3	5
112	Negative interlayer shear effect on a double-layered van der Waals material resonator. Physical Review B, 2021, 104, .	1.1	5
113	SIZE EFFECTS ON EFFECTIVE YOUNG'S MODULUS OF NANO CRYSTAL COPPER WIRES. International Journal of Computational Methods, 2005, 02, 315-326.	0.8	4
114	Using Model of Strain Gradient Membrane Shell to Characterize Longitudinal Wave Dispersion in Multi-Walled Carbon Nanotubes. Journal of Computational and Theoretical Nanoscience, 2008, 5, 1980-1988.	0.4	4
115	Differential Quadrature Element Method for Free Vibration of Strain Gradient Beams with Elastic Boundary Conditions. Journal of Vibration Engineering and Technologies, 2019, 7, 579-589.	1.3	4
116	The viscoelastic mechanical property and constitutive models of 3D printed photopolymer. Rapid Prototyping Journal, 2021, 27, 346-354.	1.6	4
117	The speed-locking effect of particles on a graphene layer with travelling surface wave. Nanoscale Research Letters, 2020, 15, 203.	3.1	4
118	Flutter analysis of rotating beams with elastic restraints. Applied Mathematics and Mechanics (English Edition), 2022, 43, 761-776.	1.9	4
119	Molecular Dynamics and Quantum Mechanics Investigation on Mechanic-electric Behaviors of Nanotubes. International Journal of Nonlinear Sciences and Numerical Simulation, 2002, 3, .	0.4	3
120	BUCKLING PROPERTIES OF PRE-STRESSED MULTI-WALLED CARBON NANOTUBES. International Journal for Multiscale Computational Engineering, 2013, 11, 17-26.	0.8	3
121	Supersonic Flutter Analysis of Functionally Graded Fiber Orientation Plates with Elastic Restraints. AIAA Journal, 2019, 57, 3104-3109.	1.5	3
122	Vibration of functionally graded Mindlin plate based on a modified strain gradient elasticity theory. IOP Conference Series: Materials Science and Engineering, 2019, 531, 012023.	0.3	3
123	The Shape of Heavy Droplets on Superhydrophobic Surfaces. ACS Omega, 2020, 5, 26732-26737.	1.6	3
124	Transverse shear and normal deformation effects on vibration behaviors of functionally graded micro-beams. Applied Mathematics and Mechanics (English Edition), 2020, 41, 1303-1320.	1.9	3
125	Splitting of vibration mode in an imperfect submicron circular plate. Acta Mechanica, 2021, 232, 1729-1739.	1.1	3
126	Experimental Study on Wave Propagation in One-Dimensional Viscoelastic Metamaterial. Acta Mechanica Solida Sinica, 2021, 34, 597.	1.0	3

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127	Splitting of waves in rotor-in-rotor nonlocal metamaterials by internal rotor coupling. Materials and Design, 2022, 221, 110921.	3.3	3
128	Nonlinear vibrations of carbon chain resonators tuned by temperature. Materials Research Express, 2017, 4, 105026.	0.8	2
129	Thermal vibration of MoS2/Black phosphorus Bi-layered heterostructure. Physica E: Low-Dimensional Systems and Nanostructures, 2019, 114, 113597.	1.3	2
130	Flexural Wave Propagation in Mass Chain-Filled Carbon Nanotubes. Materials, 2019, 12, 2986.	1.3	2
131	Free Vibration of Elastically Constrained Single-Layered $$hbox {MoS}_{2}$$. Acta Mechanica Solida Sinica, 0, , 1.	1.0	2
132	Wave Propagation in Carbon Nanotubes. , 0, , .		1
133	Vibration of Zinc Oxide Nanowires in Electric Field. , 2017, , .		1
134	Thermal vibration of circular single-layered MoS2 predicted by the circular Mindlin plate model. AIP Advances, 2021, 11, 025328.	0.6	1
135	Thermal vibration of a double-layered graphene sheet with initial stress at low temperature. Chinese Science Bulletin, 2017, 62, 245-253.	0.4	1
136	Thermal Vibration of Carbon Nanostructures. , 2019, , 421-481.		1
137	Nonlinear thermal vibration of a nanoplate attached to a cavity. Materials Research Express, 2021, 8, 115009.	0.8	1
138	Inplane vibration analysis of rotating beams with elastic restraints. JVC/Journal of Vibration and Control, 2023, 29, 1484-1497.	1.5	1
139	Dynamic Buckling of a Nano-Wire of Crystal Copper. International Journal of Nonlinear Sciences and Numerical Simulation, 2005, 6, .	0.4	0
140	Free vibration of super-graphene carbon nanotube networks via a beam element based coarse-grained method. Materials Research Express, 2017, 4, 085002.	0.8	0
141	Vibration of Rectangular Single-Layered Black Phosphorus. , 2017, , .		0
142	Wave motion in double-resonator metamaterials. Engineering Research Express, 2019, 1, 025049.	0.8	0
143	Three-Dimensional Aeroelastic Stability of Elastically Restrained Plates in Subsonic Flow. AIAA Journal, 2020, 58, 5490-5495.	1.5	0
144	Effects of Van Der Waals Forces on the Vibration of Stacked Multilayered Graphene/Black Phosphorus Heterostructures. International Journal of Structural Stability and Dynamics, 0, , 2150115.	1.5	0

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145	Thermal Vibration of Carbon Nanostructures. , 2018, , 1-61.		0
146	The effect of van der Waals force on the vibrational properties of low-dimensional nanostructure. Chinese Science Bulletin, 2020, 65, 2371-2383.	0.4	0
147	Elastic wave propagation in a single-layered hexagonal boron nitride metamaterial. Journal of Applied Physics, 2022, 131, 185104.	1.1	0