Huaping Wu

List of Publications by Year
in descending order

110 papers	3,580 citations	147566 31 h-index	168136 53 g-index
111 all docs	111 docs citations	111 times ranked	3623 citing authors

#	Article	IF	Citations
1	Efficient Water Transport and Solar Steam Generation via Radially, Hierarchically Structured Aerogels. ACS Nano, 2019, 13, 7930-7938.	7.3	230
2	Stretchable piezoelectric energy harvesters and self-powered sensors for wearable and implantable devices. Biosensors and Bioelectronics, 2020, 168, 112569.	5.3	225
3	Bistable morphing composite structures: A review. Thin-Walled Structures, 2019, 142, 74-97.	2.7	130
4	Bioinspired, multifunctional dual-mode pressure sensors as electronic skin for decoding complex loading processes and human motions. Nano Energy, 2020, 78, 105337.	8.2	121
5	Solvent-Assisted Oxygen Incorporation of Vertically Aligned MoS₂ Ultrathin Nanosheets Decorated on Reduced Graphene Oxide for Improved Electrocatalytic Hydrogen Evolution. ACS Applied Materials & Interfaces, 2016, 8, 25210-25218.	4.0	103
6	Work function tunable laser induced graphene electrodes for Schottky type solar-blind photodetectors. Applied Physics Letters, 2022, 120, .	1.5	95
7	Controllable nanoscale engineering of vertically aligned MoS2 ultrathin nanosheets by nitrogen doping of 3D graphene hydrogel for improved electrocatalytic hydrogen evolution. Carbon, 2017, 116, 223-231.	5.4	92
8	Magnetic actuation bionic robotic gripper with bistable morphing structure. Composite Structures, 2019, 229, 111422.	3.1	83
9	Mechanical analysis of functionally graded graphene oxide-reinforced composite beams based on the first-order shear deformation theory. Mechanics of Advanced Materials and Structures, 2020, 27, 3-11.	1.5	81
10	Transfer Printing and its Applications in Flexible Electronic Devices. Nanomaterials, 2019, 9, 283.	1.9	78
11	A novel thermo-mechanical anti-icing/de-icing system using bi-stable laminate composite structures with superhydrophobic surface. Composite Structures, 2017, 180, 933-943.	3.1	76
12	Smart design of wettability-patterned gradients on substrate-independent coated surfaces to control unidirectional spreading of droplets. Soft Matter, 2017, 13, 2995-3002.	1.2	70
13	Hollow Auâ€“Cu₂O Coreâ€“Shell Nanoparticles with Geometry-Dependent Optical Properties as Efficient Plasmonic Photocatalysts under Visible Light. Langmuir, 2016, 32, 3085-3094.	1.6	68
14	High sensitive and stable self-powered solar-blind photodetector based on solution-processed all inorganic CuMO2/Ga2O3 pn heterojunction. Materials Today Physics, 2021, 17, 100335.	2.9	67
15	The bistable behaviors of carbon-fiber/epoxy anti-symmetric composite shells. Composites Part B: Engineering, 2013, 47, 190-199.	5.9	66
16	Non-contact magnetic driving bioinspired Venus flytrap robot based on bistable anti-symmetric CFRP structure. Composite Structures, 2016, 135, 17-22.	3.1	66
17	A highly sensitive piezoresistive sensor with interlocked graphene microarrays for meticulous monitoring of human motions. Journal of Materials Chemistry C, 2020, 8, 11525-11531.	2.7	61
18	Three-dimensional thermal weight function method for the interface crack problems in bimaterial structures under a transient thermal loading. Journal of Thermal Stresses, 2016, 39, 371-385.	1.1	60

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19	Wetting and Dewetting Transitions on Submerged Superhydrophobic Surfaces with Hierarchical Structures. Langmuir, 2017, 33, 407-416.	1.6	56
20	Pneumatically Actuated Soft Gripper with Bistable Structures. Soft Robotics, 2022, 9, 57-71.	4.6	55
21	Three-dimensional graphene biointerface with extremely high sensitivity to single cancer cell monitoring. Biosensors and Bioelectronics, 2018, 105, 22-28.	5.3	54
22	Influence of structured sidewalls on the wetting states and superhydrophobic stability of surfaces with dual-scale roughness. Applied Surface Science, 2016, 382, 111-120.	3.1	45
23	Viscoelastic bistable behaviour of antisymmetric laminated composite shells with time-temperature dependent properties. Thin-Walled Structures, 2018, 122, 403-415.	2.7	45
24	Gradient porous PNIPAM-based hydrogel actuators with rapid response and flexibly controllable deformation. Journal of Materials Chemistry C, 2020, 8, 12092-12099.	2.7	45
25	Systematic experimental and numerical study of bistable snap processes for anti-symmetric cylindrical shells. Composite Structures, 2014, 112, 368-377.	3.1	44
26	Nonâ€enzymatic Amperometric Glucose Sensor Based on Copper Nanowires Decorated Reduced Graphene Oxide. Electroanalysis, 2016, 28, 2543-2551.	1.5	44
27	Mechanical-force-induced non-local collective ferroelastic switching in epitaxial lead-titanate thin films. Nature Communications, 2019, 10, 3951.	5.8	43
28	A rigid thick Miura-Ori structure driven by bistable carbon fibre-reinforced polymer cylindrical shell. Composites Science and Technology, 2018, 167, 411-420.	3.8	42
29	The enhanced piezoelectricity in compositionally graded ferroelectric thin films under electric field: A role of flexoelectric effect. Journal of Applied Physics, 2018, 123, .	1.1	37
30	The frequency-response behaviour of flexible piezoelectric devices for detecting the magnitude and loading rate of stimuli. Journal of Materials Chemistry C, 2021, 9, 584-594.	2.7	34
31	Macroporous Niobium Phosphate-Supported Magnesia Catalysts for Isomerization of Glucose-to-Fructose. ACS Sustainable Chemistry and Engineering, 2019, 7, 8512-8521.	3.2	33
32	Calculation of stress intensity factors for functionally graded materials by using the weight functions derived by the virtual crack extension technique. International Journal of Mechanics and Materials in Design, 2014, 10, 65-77.	1.7	32
33	Thermal effect and active control on bistable behaviour of anti-symmetric composite shells with temperature-dependent properties. Composite Structures, 2015, 124, 263-271.	3.1	32
34	Effect of crystal orientation on the phase diagrams, dielectric and piezoelectric properties of epitaxial BaTiO3 thin films. AIP Advances, 2016, 6, .	0.6	32
35	A novel solar tracking model integrated with bistable composite structures and bimetallic strips. Composite Structures, 2020, 248, 112506.	3.1	32
36	Uncertainty analysis of composite laminated plate with data-driven polynomial chaos expansion method under insufficient input data of uncertain parameters. Composite Structures, 2019, 209, 625-633.	3.1	31

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37	Pneumatically Controlled Reconfigurable Bistable Bionic Flower for Robotic Gripper. Soft Robotics, 2022, 9, 657-668.	4.6	30
38	A Biomimetic Drosera Capensis with Adaptive Decisionâ€Predation Behavior Based on Multifunctional Sensing and Fast Actuating Capability. Advanced Functional Materials, 2022, 32, 2110296.	7.8	30
39	Synthesis of a hierarchically porous niobium phosphate monolith by a solâ€“gel method for fructose dehydration to 5-hydroxymethylfurfural. Catalysis Science and Technology, 2018, 8, 3675-3685.	2.1	28
40	Bistable characteristics of hybrid composite laminates embedded with bimetallic strips. Composites Science and Technology, 2021, 212, 108880.	3.8	28
41	Stretchable, sensitive, flexible strain sensor incorporated with patterned liquid metal on hydrogel for human motion monitoring and humanâ€“machine interaction. Journal of Materials Chemistry C, 2022, 10, 8206-8217.	2.7	28
42	Significant Enhancement of the Visible Light Photocatalytic Properties in 3D BiFeO3/Graphene Composites. Nanomaterials, 2019, 9, 65.	1.9	27
43	A self-powered multi-functional sensor based on triboelectric nanogenerator for monitoring states of rotating motion. Nano Energy, 2021, 83, 105857.	8.2	27
44	A magneto-active soft gripper with adaptive and controllable motion. Smart Materials and Structures, 2021, 30, 015024.	1.8	27
45	An origami-inspired cube pipe structure with bistable anti-symmetric CFRP shells driven by magnetic field. Smart Materials and Structures, 2019, 28, 025028.	1.8	26
46	Improved charge injection of edge aligned MoS₂/MoO₂ hybrid nanosheets for highly robust and efficient electrocatalysis of H₂ production. Nanoscale, 2020, 12, 5003-5013.	2.8	26
47	Experimental study of multi-stable morphing structures actuated by pneumatic actuation. International Journal of Advanced Manufacturing Technology, 2020, 108, 1203-1216.	1.5	26
48	Experimental study of orthogonal bistable laminated composite shell driven by magnetorheological elastomer. Composite Structures, 2021, 271, 114119.	3.1	26
49	3D-printed low-cost fabrication and facile integration of flexible epidermal microfluidics platform. Sensors and Actuators B: Chemical, 2022, 353, 131085.	4.0	25
50	Formation of tunable graphene oxide coating with high adhesion. Physical Chemistry Chemical Physics, 2016, 18, 5086-5090.	1.3	24
51	Giant electrocaloric effect in ferroelectric ultrathin films at room temperature mediated by flexoelectric effect and work function. Journal of Applied Physics, 2017, 122, .	1.1	24
52	Reliability optimization design for composite laminated plate considering multiple types of uncertain parameters. Engineering Optimization, 2021, 53, 221-236.	1.5	23
53	Systematic analysis of bistable anti-symmetric composite cylindrical shells and variable stiffness composite structures in hygrothermal environment. International Journal of Advanced Manufacturing Technology, 2020, 108, 1091-1107.	1.5	20
54	Adjustable magnetoelectric effect of self-assembled vertical multiferroic nanocomposite films by the in-plane misfit strain and ferromagnetic volume fraction. Journal of Applied Physics, 2014, 115, 114105.	1.1	19

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55	Dielectric tunability of vertically aligned ferroelectric-metal oxide nanocomposite films controlled by out-of-plane misfit strain. Journal of Applied Physics, 2016, 119, .	1.1	19
56	On the coupling effects of piezoelectricity and flexoelectricity in piezoelectric nanostructures. AIP Advances, 2017, 7, .	0.6	19
57	Design of composite lattice materials combined with fabrication approaches. Journal of Composite Materials, 2019, 53, 393-404.	1.2	19
58	Nitrogen and sulfur co-doped hierarchical graphene hydrogel for high-performance electrode materials. Journal of Applied Electrochemistry, 2020, 50, 463-473.	1.5	19
59	Digital Programming Graphene Oxide Liquid Crystalline Hybrid Hydrogel by Shearing Microlithography. ACS Nano, 2020, 14, 2336-2344.	7.3	19
60	BISTABLE CHARACTERISTICS OF IRREGULAR ANTI-SYMMETRIC LAY-UP COMPOSITE CYLINDRICAL SHELLS. International Journal of Structural Stability and Dynamics, 2013, 13, 1350029.	1.5	18
61	Self-supported ternary (NixFey)2P nanoplates arrays as an efficient bifunctional electrocatalyst for overall water splitting. Electrochimica Acta, 2019, 319, 561-568.	2.6	18
62	Theoretical and Experimental Study of Reversible and Stable Wetting States of a Hierarchically Wrinkled Surface Tuned by Mechanical Strain. Langmuir, 2019, 35, 6870-6877.	1.6	18
63	Theoretical and Experimental Studies on the Controllable Pancake Bouncing Behavior of Droplets. Langmuir, 2019, 35, 17000-17008.	1.6	18
64	Tristable behaviour of cross-shaped unsymmetric fibre-reinforced laminates with concaveâ€“convex boundaries. Engineering Structures, 2020, 225, 111253.	2.6	18
65	Multi-scale uncertainty quantification of composite laminated plate considering random and interval variables with data driven PCE method. Mechanics of Advanced Materials and Structures, 2021, 28, 2429-2439.	1.5	18
66	A Highly Sensitive Graphene Aerogel Pressure Sensor Inspired by Fluffy Spider Leg. Advanced Materials Interfaces, 2021, 8, 2100511.	1.9	18
67	Flexible six-dimensional force sensor inspired by the tenon-and-mortise structure of ancient Chinese architecture for orthodontics. Nano Energy, 2022, 96, 107073.	8.2	18
68	MnO₂ nanowires-decorated carbon fiber cloth as electrodes for aqueous asymmetric supercapacitor. Functional Materials Letters, 2018, 11, 1850034.	0.7	17
69	Tessellated multistable structures integrated with new transition elements and antisymmetric laminates. Thin-Walled Structures, 2022, 170, 108560.	2.7	17
70	Giant negative electrocaloric effect induced by domain transition in the strained ferroelectric thin film. Journal of Physics Condensed Matter, 2018, 30, 465401.	0.7	16
71	Enhanced energy density in hydroxyl-modified barium titanate/poly(fluorovinylidene-co-trifluoroethylene) nanocomposites with improved interfacial polarization. Chemical Physics Letters, 2019, 723, 89-95.	1.2	16
72	Adjustable plasmonic optical properties of hollow gold nanospheres monolayers and LSPR-dependent surface-enhanced Raman scattering of hollow gold nanosphere/graphene oxide hybrids. RSC Advances, 2015, 5, 42653-42662.	1.7	15

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73	Giant piezoelectric response in piezoelectric/dielectric superlattices due to flexoelectric effect. Applied Physics Letters, 2016, 109, .	1.5	15
74	Bioinspired bilayer hydrogel-based actuator with rapidly bidirectional actuation, programmable deformation and devisable functionality. Sensors and Actuators B: Chemical, 2022, 359, 131547.	4.0	15
75	Nondestructive identification of softness via bioinspired multisensory electronic skins integrated onâ€†aâ€†robotic hand. Npj Flexible Electronics, 2022, 6, .	5.1	15
76	Controlled buckling and postbuckling behaviors of thin film devices suspended on an elastomeric substrate with trapezoidal surface relief structures. International Journal of Solids and Structures, 2019, 160, 96-102.	1.3	14
77	High mass loading flower-like MnO₂ on NiCo₂O₄ deposited graphene/nickel foam as high-performance electrodes for asymmetric supercapacitors. RSC Advances, 2021, 11, 16161-16172.	1.7	14
78	Self-assembly of supraparticles on a lubricated-superamphiphobic patterned surface. Applied Surface Science, 2022, 576, 151684.	3.1	14
79	Effect of out-of-plane misfit strain on phase diagrams and ferroelectric properties of ferroelectric films in vertical nanocomposite structures. Applied Physics A: Materials Science and Processing, 2013, 113, 155-160.	1.1	13
80	Excellent oil-water separation under external pressure: Controllable critical pressure and separation efficiency by well-designed hierarchical mesh structure. Applied Surface Science, 2018, 456, 602-608.	3.1	13
81	Liquid Stratification and Diffusionâ€Induced Anisotropic Hydrogel Actuators with Excellent Thermosensitivity and Programmable Functionality. Advanced Intelligent Systems, 2021, 3, 2100030.	3.3	13
82	Compressible Znâ€“Air Batteries Based on Metalâ€“Organic Frameworks Nanoflakeâ€Assembled Carbon Frameworks for Portable Motion and Temperature Monitors. Advanced Energy and Sustainability Research, 0, , 2200014.	2.8	10
83	Kim model for flux-pinning-induced stress in a long cylindrical superconductor. AIP Advances, 2016, 6, .	0.6	9
84	Non-Uniform Curvature Model and Numerical Simulation for Anti-Symmetric Cylindrical Bistable Polymer Composite Shells. Polymers, 2020, 12, 1001.	2.0	9
85	Interplay Between Receptor-Ligand Binding and Lipid Domain Formation Depends on the Mobility of Ligands in Cell-Substrate Adhesion. Frontiers in Molecular Biosciences, 2021, 8, 655662.	1.6	9
86	High energy density in poly(vinylidene fluoride-trifluoroethylene) composite incorporated with modified halloysite nanotubular architecture. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2021, 625, 126993.	2.3	9
87	Metal-free rGO/GO hybrid microelectrode array for sensitive and in-situ hydrogen peroxide sensing. Electrochimica Acta, 2019, 326, 134967.	2.6	8
88	Systematic analysis of a new novel variable stiffness stable composite structures using theory, FEM and experiment. Mechanics of Advanced Materials and Structures, 2022, 29, 7221-7230.	1.5	8
89	Oil/Water Microreactor with a Coreâ€“Shell Wetting State on a SOB/OL-SHB/HL Multilevel Patterned Surface. Journal of Physical Chemistry C, 2021, 125, 27771-27783.	1.5	8
90	Systematic study on the mechanical and electric behaviors of the nonbuckling interconnect design of stretchable electronics. Science China: Physics, Mechanics and Astronomy, 2018, 61, 1.	2.0	7

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91	Continuous Directional Water Delivery on the 3D-Printed Arrowhead Microstructure Array. Materials, 2019, 12, 1043.	1.3	7
92	Largeâ€Range, Reversible Directional Spreading of Droplet on a Doubleâ€Gradient Wrinkled Surface Adjusted Under Mechanical Strain. Advanced Materials Interfaces, 2020, 7, 1901980.	1.9	7
93	A Polar and Ordered-Channel Composite Separator Enables Antidendrite and Long-Cycle Lithium Metal Batteries. ACS Applied Materials & Interfaces, 2021, 13, 25890-25897.	4.0	7
94	A Unified High-Order Semianalytical Model and Numerical Simulation for Bistable Polymer Composite Structures. Polymers, 2022, 14, 818.	2.0	7
95	Modal analysis and structure optimisation of vehicle seat frame based on mass distribution method. International Journal of Vehicle Design, 2018, 78, 1.	0.1	6
96	Phase-field simulations on the electrocaloric properties of ferroelectric nanocylinders with the consideration of surface polarization effect. Journal of Applied Physics, 2019, 125, .	1.1	6
97	Cis-interaction of ligands on a supported lipid bilayer affects their binding to cell adhesion receptors. Science China: Physics, Mechanics and Astronomy, 2021, 64, 1.	2.0	6
98	Electrochemistry-assisted microstructuring of reduced graphene oxide-based microarrays with adjustable electrical behavior. Electrochemistry Communications, 2014, 48, 86-90.	2.3	5
99	A systematic AMFâ€“FEM coupled method for the thermo-elasto-plastic contact analysis of the plasma sprayed HA-coated biocomposite. International Journal of Mechanics and Materials in Design, 2013, 9, 227-238.	1.7	4
100	Circumferential buckling and postbuckling analysis of thin films integrated on a soft cylindrical substrate with surface relief structures. Extreme Mechanics Letters, 2020, 35, 100624.	2.0	4
101	Large electrostrain induced by reversible domain switching in ordered ferroelectric nanostructures with optimized geometric configurations. Nanotechnology, 2020, 31, 335714.	1.3	4
102	Phase stability and Landau phenomenological model of relaxor ferroelectric single crystals 0.78Pb(Mg1/3Nb2/3)O3-0.22PbTiO3. Ceramics International, 2021, 47, 9842-9848.	2.3	4
103	Three-dimensional chitosan/graphene aerogel with vertical alignment for high-performance all-solid-state supercapacitors. Functional Materials Letters, 2021, 14, 2150024.	0.7	4
104	Controlled Bi-Axial Buckling and Postbuckling of Thin Films Suspended on a Stretchable Substrate With Square Prism Relief Structures. International Journal of Applied Mechanics, 0, , .	1.3	4
105	Solvent-mediated crystalline phases of Ni_xS_y anchored on rGO sheets as electrocatalysts for hydrogen evolution application. Functional Materials Letters, 2019, 12, 1850089.	0.7	3
106	Enhanced light-harvesting by plasmonic hollow gold nanospheres for photovoltaic performance. Royal Society Open Science, 2018, 5, 171350.	1.1	2
107	Improved empirical wavelet transform method based on spectrum trend for gearbox fault signal processing. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2019, 233, 3449-3459.	1.1	2
108	Stress effect on the electrocaloric properties of PbTiO3 nanocylinders with the consideration of surface polarization. Mechanics of Advanced Materials and Structures, 0, , 1-13.	1.5	1

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109	Optical Properties of 0.95BiFeO₃-RTiO₃ (R = Mg, Pb, Ba, Ca and Sr) Thin Films. Integrated Ferroelectrics, 2012, 139, 1-6.	0.3	0
110	Transition Waves in One-Dimensional Periodic Bistable Mass-Spring Chains. International Journal of Structural Stability and Dynamics, 0, , .	1.5	0