

# Hai-Fei Zhan

## List of Publications by Year in descending order

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105  
papers

1,999  
citations

201385

27  
h-index

301761

39  
g-index

107  
all docs

107  
docs citations

107  
times ranked

1823  
citing authors

#	ARTICLE	IF	CITATIONS
1	Tensile properties of functionalized carbon nanothreads. <i>Nano Materials Science</i> , 2022, 4, 220-226.	3.9	4
2	Torsional Properties of Bundles with Randomly Packed Carbon Nanotubes. <i>Nanomaterials</i> , 2022, 12, 760.	1.9	3
3	A general Neural Particle Method for hydrodynamics modeling. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 393, 114740.	3.4	18
4	One-step plasma electrolytic oxidation with Graphene oxide for Ultra-low porosity Corrosion-resistant TiO <sub>2</sub> coatings. <i>Applied Surface Science</i> , 2022, 594, 153477.	3.1	17
5	Atomistic Simulations of the Permeability and Dynamic Transportation Characteristics of Diamond Nanochannels. <i>Nanomaterials</i> , 2022, 12, 1785.	1.9	2
6	Deformation of Copper Nanowire under Coupled Tension&Torsion Loading. <i>Nanomaterials</i> , 2022, 12, 2203.	1.9	1
7	Atomistic Investigation of the Titanium Carbide MXenes under Impact Loading. <i>Nanomaterials</i> , 2022, 12, 2456.	1.9	3
8	Deformation and damage characteristics of copper/honeycomb-graphene under shock loading. <i>International Journal of Mechanical Sciences</i> , 2022, 230, 107544.	3.6	6
9	Carbon nanothreads enable remarkable enhancement in the thermal conductivity of polyethylene. <i>Nanoscale</i> , 2021, 13, 6934-6943.	2.8	10
10	Effective Enhancement of a Carbon Nanothread on the Mechanical Properties of the Polyethylene Nanocomposite. <i>Journal of Physical Chemistry C</i> , 2021, 125, 5781-5792.	1.5	9
11	Vibrational characteristics of rotating soft cylinders. <i>Science China: Physics, Mechanics and Astronomy</i> , 2021, 64, 1.	2.0	5
12	Damage and self-healing characteristics of monolayer graphene enhanced Cu under ballistic impact. <i>Mechanics of Materials</i> , 2021, 155, 103736.	1.7	15
13	Multiscale exploit the role of copper on the burn resistant behavior of Ti-Cu alloy. <i>Journal of Alloys and Compounds</i> , 2021, 863, 158639.	2.8	7
14	Exceptional Deformability of Wurtzite Zinc Oxide Nanowires with Growth Axial Stacking Faults. <i>Nano Letters</i> , 2021, 21, 4327-4334.	4.5	3
15	Impacts from the stacking morphology on the tensile performance of double-walled carbon nanotube bundles. <i>Carbon</i> , 2021, 178, 345-354.	5.4	6
16	Mechanical Properties of Single-Layer Diamond Reinforced Poly(vinyl alcohol) Nanocomposites through Atomistic Simulation. <i>Macromolecular Materials and Engineering</i> , 2021, 306, 2100292.	1.7	4
17	3D Printed Multi-Functional Scaffolds Based on Poly( $\mu$ -Caprolactone) and Hydroxyapatite Composites. <i>Nanomaterials</i> , 2021, 11, 2456.	1.9	15
18	Revealing the Mechanical Bending Mechanisms of Single-Crystalline Rutile TiO <sub>2</sub> Nanowires Near Room Temperature: Implications for Nanostructured Semiconductors. <i>ACS Applied Nano Materials</i> , 2021, 4, 10354-10359.	2.4	1

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19	A data-driven smoothed particle hydrodynamics method for fluids. <i>Engineering Analysis With Boundary Elements</i> , 2021, 132, 12-32.	2.0	6
20	A bio-inspired B-Spline Offset Feature for structural topology optimization. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021, 386, 114081.	3.4	9
21	Mechanical Properties of a Single-Layer Diamane under Tension and Bending. <i>Journal of Physical Chemistry C</i> , 2021, 125, 915-922.	1.5	31
22	Tensile Performance of Polymer Nanocomposites with Randomly Dispersed Carbon Nanothreads. <i>Macromolecules</i> , 2021, 54, 11486-11496.	2.2	6
23	Thermal Transport in 3D Nanostructures. <i>Advanced Functional Materials</i> , 2020, 30, 1903841.	7.8	83
24	Damage characteristics of aluminum nanorod under hypervelocity impact. <i>Computational Materials Science</i> , 2020, 174, 109490.	1.4	12
25	Development of Mechanically Enhanced Polycaprolactone Composites by a Functionalized Titanate Nanofiller for Melt Electrowriting in 3D Printing. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 47993-48006.	4.0	20
26	Morphological evolution of Ti <sub>2</sub> Cu in Ti-13Cu-Al alloy after cooling from semi-solid state. <i>Journal of Alloys and Compounds</i> , 2020, 848, 156639.	2.8	7
27	Molecular Dynamics Simulation of Chiral Carbon Nanothread Bundles for Nanofiber Applications. <i>ACS Applied Nano Materials</i> , 2020, 3, 10218-10225.	2.4	12
28	Atomic Investigation on the Facet-Dependent Melting of Ceramic Nanostructures via In Situ Electron Irradiation. <i>Advanced Materials Interfaces</i> , 2020, 7, 2000288.	1.9	1
29	A new data-driven topology optimization framework for structural optimization. <i>Computers and Structures</i> , 2020, 239, 106310.	2.4	34
30	Effect of Fe-doping on bending elastic properties of single-crystalline rutile TiO <sub>2</sub> nanowires. <i>Nanoscale Advances</i> , 2020, 2, 2800-2807.	2.2	1
31	Low interfacial thermal resistance between crossed ultra-thin carbon nanothreads. <i>Carbon</i> , 2020, 165, 216-224.	5.4	27
32	First-principles investigation of mechanical, electronic and optical properties of H-, F- and Cl-diamane. <i>Applied Surface Science</i> , 2020, 528, 147035.	3.1	47
33	Single layer diamond - A new ultrathin 2D carbon nanostructure for -mechanical resonator. <i>Carbon</i> , 2020, 161, 809-815.	5.4	42
34	High density mechanical energy storage with carbon nanothread bundle. <i>Nature Communications</i> , 2020, 11, 1905.	5.8	45
35	Atomistic Mechanisms of Ultralarge Bending Deformation of Single-Crystalline TiO <sub>2</sub> -B Nanowires. <i>Journal of Physical Chemistry C</i> , 2020, 124, 11174-11182.	1.5	5
36	Graphdiyne family-tunable solution to shock resistance. <i>Materials Research Express</i> , 2020, 7, 115602.	0.8	4

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37	Graphynes: an alternative lightweight solution for shock protection. Beilstein Journal of Nanotechnology, 2019, 10, 1588-1595.	1.5	6
38	A novel super-elastic carbon nanofiber with cup-stacked carbon nanocones and a screw dislocation. Carbon, 2019, 154, 98-107.	5.4	14
39	<i>In Situ</i> Atomic-Scale Study on the Ultralarge Bending Behaviors of TiO <sub>2</sub> ∕Anatase Dual-Phase Nanowires. Nano Letters, 2019, 19, 7742-7749.	4.5	15
40	Role of Nitrogen on the Mechanical Properties of the Novel Carbon Nitride Nanothreads. Journal of Physical Chemistry C, 2019, 123, 28977-28984.	1.5	13
41	How Gaseous Environment Influences a Carbon Nanotube-Based Mechanical Resonator. Journal of Physical Chemistry C, 2019, 123, 25925-25933.	1.5	5
42	General existence of flexural mode doublets in nanowires targeting vectorial sensing applications. Physical Chemistry Chemical Physics, 2019, 21, 4136-4144.	1.3	3
43	Atomic-scale investigation on the ultra-large bending behaviours of layered sodium titanate nanowires. Nanoscale, 2019, 11, 11847-11855.	2.8	5
44	Isothermal Diffusion Behavior and Surface Performance of Cu/Ni Coating on TC4 Alloy. Materials, 2019, 12, 3884.	1.3	4
45	Thermal conduction of one-dimensional carbon nanomaterials and nanoarchitectures. Chinese Physics B, 2018, 27, 038103.	0.7	14
46	<i>In situ</i> mechanical resonance behaviour of pristine and defective zinc blende GaAs nanowires. Nanoscale, 2018, 10, 2588-2595.	2.8	15
47	Graphene Helicoid: Distinct Properties Promote Application of Graphene Related Materials in Thermal Management. Journal of Physical Chemistry C, 2018, 122, 7605-7612.	1.5	25
48	Atypical Defect Motions in Brittle Layered Sodium Titanate Nanowires. Journal of Physical Chemistry Letters, 2018, 9, 6052-6059.	2.1	5
49	Numerical study on the perforation of steel plates by multiple projectiles. Engineering Computations, 2018, 35, 2629-2651.	0.7	1
50	Underlying burning resistant mechanisms for titanium alloy. Materials and Design, 2018, 156, 588-595.	3.3	37
51	Breakdown of Hooke's law at the nanoscale ∕ 2D material-based nanosprings. Nanoscale, 2018, 10, 18961-18968.	2.8	27
52	Nanojoint Formation between Ceramic Titanate Nanowires and Spot Melting of Metal Nanowires with Electron Beam. ACS Applied Materials & Interfaces, 2017, 9, 9143-9151.	4.0	6
53	Unexpected dynamic recrystallization behavior of Ti-7Cu alloy in semi-solid state. Journal of Alloys and Compounds, 2017, 712, 468-476.	2.8	7
54	Graphene helicoid as novel nanospring. Carbon, 2017, 120, 258-264.	5.4	42

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55	Mechanical Properties of Penta-Graphene Nanotubes. <i>Journal of Physical Chemistry C</i> , 2017, 121, 9642-9647.	1.5	28
56	Analytical solution to bending and contact strength of spiral bevel gears in consideration of friction. <i>International Journal of Mechanical Sciences</i> , 2017, 128-129, 475-485.	3.6	26
57	The best features of diamond nanothread for nanofibre applications. <i>Nature Communications</i> , 2017, 8, 14863.	5.8	62
58	Thermal Conductivity of Diamond Nanothread. , 2017, , 185-204.		4
59	A multiscale evaluation of the surface integrity in boring trepanning association deep hole drilling. <i>International Journal of Machine Tools and Manufacture</i> , 2017, 123, 48-56.	6.2	37
60	Graphene and Carbon Nanotube Hybrid Structure: A Review. <i>Procedia IUTAM</i> , 2017, 21, 94-101.	1.2	61
61	A New Particle Generation Method for Arbitrary 2D Geometries in SPH Modeling. <i>International Journal of Computational Methods</i> , 2017, 14, 1750023.	0.8	5
62	Modeling heat transfer during friction stir welding using a meshless particle method. <i>International Journal of Heat and Mass Transfer</i> , 2017, 104, 288-300.	2.5	43
63	A general approach to tune the vibration properties of the mounting system in the high-speed and heavy-duty engine. <i>JVC/Journal of Vibration and Control</i> , 2016, 22, 247-257.	1.5	6
64	Tailorable Burning Behavior of Ti14 Alloy by Controlling Semi-Solid Forging Temperature. <i>Materials</i> , 2016, 9, 697.	1.3	11
65	Diamond Nanothread as a New Reinforcement for Nanocomposites. <i>Advanced Functional Materials</i> , 2016, 26, 5279-5283.	7.8	63
66	Failure mechanism of monolayer graphene under hypervelocity impact of spherical projectile. <i>Scientific Reports</i> , 2016, 6, 33139.	1.6	30
67	From brittle to ductile: a structure dependent ductility of diamond nanothread. <i>Nanoscale</i> , 2016, 8, 11177-11184.	2.8	84
68	The morphology and temperature dependent tensile properties of diamond nanothreads. <i>Carbon</i> , 2016, 107, 304-309.	5.4	46
69	A new type of high-order elements based on the mesh-free interpolations. <i>Engineering Analysis With Boundary Elements</i> , 2016, 65, 63-71.	2.0	1
70	Thermal conductivity of a new carbon nanotube analog: The diamond nanothread. <i>Carbon</i> , 2016, 98, 232-237.	5.4	71
71	Carbon nanotube-based super nanotubes: tunable thermal conductivity in three dimensions. <i>RSC Advances</i> , 2015, 5, 48164-48168.	1.7	9
72	Effect of Covalent Functionalization on Thermal Transport across Graphene-Polymer Interfaces. <i>Journal of Physical Chemistry C</i> , 2015, 119, 12731-12738.	1.5	126

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73	Suppressed Thermal Conductivity of Bilayer Graphene with Vacancy-Initiated Linkages. Journal of Physical Chemistry C, 2015, 119, 1748-1752.	1.5	30
74	Tuning the resonance properties of 2D carbon nanotube networks towards a mechanical resonator. Nanotechnology, 2015, 26, 315501.	1.3	6
75	Two-dimensional graphene heterojunctions: The tunable mechanical properties. Carbon, 2015, 95, 1061-1068.	5.4	13
76	Graphene with Patterned Fluorination: Morphology Modulation and Implications. Journal of Physical Chemistry C, 2015, 119, 27562-27568.	1.5	12
77	Formation of carbon nanoscrolls from graphene nanoribbons: A molecular dynamics study. Computational Materials Science, 2015, 96, 300-305.	1.4	31
78	Tensile properties of a boron/nitrogen-doped carbon nanotube-graphene hybrid structure. Beilstein Journal of Nanotechnology, 2014, 5, 329-336.	1.5	27
79	Resonance of graphene nanoribbons doped with nitrogen and boron: a molecular dynamics study. Beilstein Journal of Nanotechnology, 2014, 5, 717-725.	1.5	6
80	Tuneable Resonance Properties of Graphene by Nitrogen-Dopant. Applied Mechanics and Materials, 2014, 553, 3-9.	0.2	4
81	Thermal conductivity of Si nanowires with faulted stacking layers. Journal Physics D: Applied Physics, 2014, 47, 015303.	1.3	22
82	Thermal conductivity of configurable two-dimensional carbon nanotube architecture and strain modulation. Applied Physics Letters, 2014, 105, .	1.5	26
83	Impact of the Piston Secondary Motion on its Slap Force. Applied Mechanics and Materials, 2014, 553, 582-587.	0.2	0
84	Mechanical bending properties of sodium titanate (Na <sub>2</sub> Ti <sub>3</sub> O <sub>7</sub> ) nanowires. RSC Advances, 2014, 4, 56970-56976.	1.7	18
85	Tailoring the Resonance of Bilayer Graphene Sheets by Interlayer sp <sup>3</sup> Bonds. Journal of Physical Chemistry C, 2014, 118, 732-739.	1.5	14
86	Graphene ripples generated by grain boundaries in highly ordered pyrolytic graphite. Carbon, 2014, 68, 330-336.	5.4	31
87	Bending properties of Ag nanowires with pre-existing surface defects. Computational Materials Science, 2014, 81, 45-51.	1.4	17
88	Structure-mediated thermal transport of monolayer graphene allotropes nanoribbons. Carbon, 2014, 77, 416-423.	5.4	35
89	Tensile Properties of Si Nanowires with Faulted Stacking Layers. Science of Advanced Materials, 2014, 6, 1489-1492.	0.1	4
90	TENSILE PROPERTIES OF GRAPHENE-NANOTUBE HYBRID STRUCTURES: A MOLECULAR DYNAMICS STUDY. International Journal of Computational Materials Science and Engineering, 2013, 02, 1350020.	0.5	9

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91	Numerical Characterization of Nanowires. , 2013, , .		0
92	Surface effects on the dual-mode vibration of $\text{Ag}$ silver nanowires with different cross-sections. Journal Physics D: Applied Physics, 2012, 45, 465304.	1.3	17
93	Influence of pre-existing surface defects on the vibrational properties of Ag nanowires. , 2012, , .		1
94	A fundamental numerical and theoretical study for the vibrational properties of nanowires. Journal of Applied Physics, 2012, 111, 124303.	1.1	36
95	Modified beam theories for bending properties of nanowires considering surface/intrinsic effects and axial extension effect. Journal of Applied Physics, 2012, 111, .	1.1	20
96	MD INVESTIGATIONS FOR MECHANICAL PROPERTIES OF COPPER NANOWIRES WITH AND WITHOUT SURFACE DEFECTS. International Journal of Computational Methods, 2012, 09, 1240003.	0.8	10
97	Beat phenomena in metal nanowires, and their implications for resonance-based elastic property measurements. Nanoscale, 2012, 4, 6779.	2.8	34
98	Theoretical and numerical investigation of bending properties of Cu nanowires. Computational Materials Science, 2012, 55, 73-80.	1.4	33
99	Numerical investigation of mechanical properties of nanowires: a review. Interaction and Multiscale Mechanics, 2012, 5, 115-129.	0.4	3
100	Atomistic Investigations of Single-Crystal Silicon with Pre-Existing Defects. Advanced Science Letters, 2012, 14, 165-170.	0.2	0
101	Numerical exploration of plastic deformation mechanisms of copper nanowires with surface defects. Computational Materials Science, 2011, 50, 3425-3430.	1.4	34
102	Advanced Numerical Characterization of Mono-Crystalline Copper with Defects. Advanced Science Letters, 2011, 4, 1293-1301.	0.2	15
103	Numerical Exploration of the Defect's Effect on Mechanical Properties of Nanowires under Torsion. Advanced Materials Research, 0, 335-336, 498-501.	0.3	9
104	Exploration of the Defect's Effect on the Mechanical Properties of Different Orientated Nanowires. Advanced Materials Research, 0, 328-330, 1239-1244.	0.3	2
105	Atomistic Insights on the Rheological Property of Polycaprolactone Composites with the Addition of Graphene. Advanced Materials Technologies, 0, , 2100507.	3.0	2