

Junhua Zhao

List of Publications by Year in descending order

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142
papers

4,699
citations

136885

32
h-index

110317

64
g-index

143
all docs

143
docs citations

143
times ranked

5069
citing authors

#	ARTICLE	IF	CITATIONS
1	Ultrafast viscous water flow through nanostrand-channelled graphene oxide membranes. Nature Communications, 2013, 4, 2979.	5.8	673
2	Understanding Water Permeation in Graphene Oxide Membranes. ACS Applied Materials & Interfaces, 2014, 6, 5877-5883.	4.0	415
3	Strain engineering of thermal conductivity in graphene sheets and nanoribbons: a demonstration of magic flexibility. Nanotechnology, 2011, 22, 105705.	1.3	346
4	Wetting of Graphene Oxide: A Molecular Dynamics Study. Langmuir, 2014, 30, 3572-3578.	1.6	190
5	Breakdown of fast water transport in graphene oxides. Physical Review E, 2014, 89, 012113.	0.8	164
6	Thermal conductivities of single- and multi-layer phosphorene: a molecular dynamics study. Nanoscale, 2016, 8, 483-491.	2.8	159
7	Influence of thermostatting on nonequilibrium molecular dynamics simulations of heat conduction in solids. Journal of Chemical Physics, 2019, 151, 234105.	1.2	126
8	Stochastic predictions of bulk properties of amorphous polyethylene based on molecular dynamics simulations. Mechanics of Materials, 2014, 68, 70-84.	1.7	118
9	A theoretical analysis of cohesive energy between carbon nanotubes, graphene and substrates. Carbon, 2013, 57, 108-119.	5.4	99
10	Interfacial thermal conductance in graphene/black phosphorus heterogeneous structures. Carbon, 2017, 117, 399-410.	5.4	85
11	The mechanical properties of three types of carbon allotropes. Nanotechnology, 2013, 24, 095702.	1.3	79
12	Temperature-dependent mechanical properties of monolayer black phosphorus by molecular dynamics simulations. Applied Physics Letters, 2015, 107, .	1.5	73
13	Thermal conductivity of graphene kirigami: Ultralow and strain robustness. Carbon, 2016, 104, 203-213.	5.4	69
14	Coarse-grained potentials of single-walled carbon nanotubes. Journal of the Mechanics and Physics of Solids, 2014, 71, 197-218.	2.3	61
15	Thermal Conductivity of Defective Graphene Oxide: A Molecular Dynamic Study. Molecules, 2019, 24, 1103.	1.7	59
16	Thermal conductivity of graphene nanoribbons under shear deformation: A molecular dynamics simulation. Scientific Reports, 2017, 7, 41398.	1.6	53
17	Study on the impact resistance of honeycomb sandwich structures under low-velocity/heavy mass. Composite Structures, 2019, 226, 111223.	3.1	51
18	The Influence of Crosslink Density on the Failure Behavior in Amorphous Polymers by Molecular Dynamics Simulations. Materials, 2016, 9, 234.	1.3	49

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19	The in-plane and out-of-plane stress constraint factors and K_{σ}^* description of stress field near the border of a semi-elliptical surface crack. <i>International Journal of Fatigue</i> , 2007, 29, 435-443.	2.8	44
20	Thermal conductivity of a h-BCN monolayer. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 27326-27331.	1.3	44
21	Recent progress in the development of thermal interface materials: a review. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 753-776.	1.3	44
22	The influence of Poisson's ratio on thickness-dependent stress concentration at elliptic holes in elastic plates. <i>International Journal of Fatigue</i> , 2008, 30, 165-171.	2.8	43
23	Effects of the dispersion of polymer wrapped two neighbouring single walled carbon nanotubes (SWNTs) on nanoengineering load transfer. <i>Composites Part B: Engineering</i> , 2013, 45, 1714-1721.	5.9	43
24	Thermal conductivity dependence on chain length in amorphous polymers. <i>Journal of Applied Physics</i> , 2013, 113, .	1.1	42
25	Tension-induced phase transition of single-layer molybdenum disulphide (MoS ₂) at low temperatures. <i>Nanotechnology</i> , 2014, 25, 295701.	1.3	42
26	A stable high-speed rotational transmission system based on nanotubes. <i>Applied Physics Letters</i> , 2015, 106, .	1.5	38
27	Loading and unloading of a spherical contact: From elastic to elastic-perfectly plastic materials. <i>International Journal of Mechanical Sciences</i> , 2012, 56, 70-76.	3.6	37
28	An analytical solution on interface debonding for large diameter carbon nanotube-reinforced composite with functionally graded variation interphase. <i>Composite Structures</i> , 2013, 104, 261-269.	3.1	37
29	Temperature-dependent mechanical properties of single-layer molybdenum disulphide: Molecular dynamics nanoindentation simulations. <i>Applied Physics Letters</i> , 2013, 103, .	1.5	37
30	Novel nonlinear coarse-grained potentials of carbon nanotubes. <i>Journal of the Mechanics and Physics of Solids</i> , 2019, 128, 79-104.	2.3	37
31	Three-parameter approach for elastic-plastic fracture of the semi-elliptical surface crack under tension. <i>International Journal of Mechanical Sciences</i> , 2008, 50, 1168-1182.	3.6	34
32	Unprecedented enhancement of wear resistance for epoxy-resin graphene composites. <i>Nanoscale</i> , 2021, 13, 2855-2867.	2.8	34
33	Thermomechanical properties dependence on chain length in bulk polyethylene: Coarse-grained molecular dynamics simulations. <i>Journal of Materials Research</i> , 2010, 25, 537-544.	1.2	33
34	The interface strength and debonding for composite structures: Review and recent developments. <i>Composite Structures</i> , 2015, 129, 8-26.	3.1	32
35	Thermal stability of a free nanotube from single-layer black phosphorus. <i>Nanotechnology</i> , 2016, 27, 235703.	1.3	32
36	Three-parameter K_{σ}^* characterization of the crack-tip fields in compact-tension-shear specimens. <i>Engineering Fracture Mechanics</i> , 2012, 92, 72-88.	2.0	29

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37	Superior thermal conductivity and extremely high mechanical strength in polyethylene chains from ab initio calculation. Journal of Applied Physics, 2012, 111, 124304.	1.1	28
38	Thermal conductivity of carbon nanocoils. Applied Physics Letters, 2013, 103, .	1.5	28
39	Challenges of the Modeling Methods for Investigating the Interaction between the CNT and the Surrounding Polymer. Advances in Materials Science and Engineering, 2013, 2013, 1-10.	1.0	27
40	Size- and edge-effect cohesive energy and shear strength between graphene, carbon nanotubes and nanofibers: Continuum modeling and molecular dynamics simulations. Composite Structures, 2019, 208, 150-167.	3.1	27
41	Atomic structure causing an obvious difference in thermal conductance at the Pd ^{H<sub>2</sub>} O interface: a molecular dynamics simulation. Nanoscale, 2020, 12, 17870-17879.	2.8	27
42	High-precision resistance strain sensors of multilayer composite structure via direct ink writing: Optimized layer flatness and interfacial strength. Composites Science and Technology, 2021, 201, 108530.	3.8	26
43	Three-dimensional stress fields near notches and cracks. International Journal of Fracture, 2008, 151, 151-160.	1.1	24
44	A comparative study of two molecular mechanics models based on harmonic potentials. Journal of Applied Physics, 2013, 113, .	1.1	23
45	3D flexible water channel: stretchability of nanoscale water bridge. Nanoscale, 2016, 8, 5676-5681.	2.8	23
46	Knitted graphene-nanoribbon sheet: a mechanically robust structure. Nanoscale, 2012, 4, 785-791.	2.8	22
47	The Lightweight Design of a Seismic Low-Yield-Strength Steel Shear Panel Damper. Materials, 2016, 9, 424.	1.3	22
48	The interface strength and delamination of fiber-reinforced composites using a continuum modeling approach. Composites Part B: Engineering, 2018, 137, 225-234.	5.9	22
49	Study on the dynamics responses of a transmission system made from carbon nanotubes. Journal of Applied Physics, 2015, 117, .	1.1	21
50	Nanoconfined Water Dynamics in Multilayer Graphene Nanopores. Journal of Physical Chemistry C, 2020, 124, 17819-17828.	1.5	21
51	Highly Regulatable Heat Conductance of Grapheneâ€‘Sericin Hybrid for Responsive Textiles. Advanced Functional Materials, 2022, 32, .	7.8	21
52	Three-parameter approach for elasticâ€‘plastic stress field of an embedded elliptical crack. Engineering Fracture Mechanics, 2009, 76, 2429-2444.	2.0	20
53	A theoretical analysis of interface debonding for coated sphere with functionally graded interphase. Composite Structures, 2014, 117, 288-297.	3.1	20
54	Continuum modeling of the cohesive energy for the interfaces between films, spheres, coats and substrates. Computational Materials Science, 2015, 96, 432-438.	1.4	20

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55	High-sensitive and stretchable resistive strain gauges: Parametric design and DIW fabrication. <i>Composite Structures</i> , 2019, 223, 110955.	3.1	20
56	Strength and stability analysis of a single-walled black phosphorus tube under axial compression. <i>Nanotechnology</i> , 2016, 27, 275701.	1.3	19
57	Thermal rectification of graphene on substrates with inhomogeneous stiffness. <i>Carbon</i> , 2019, 154, 81-89.	5.4	19
58	Buckling behaviors of metal nanowires encapsulating carbon nanotubes by considering surface/interface effects from a refined beam model. <i>Carbon</i> , 2019, 141, 348-362.	5.4	19
59	The tensile and shear failure behavior dependence on chain length and temperature in amorphous polymers. <i>Computational Materials Science</i> , 2015, 96, 567-572.	1.4	18
60	Wrinkling behavior of graphene on substrates with different surface morphologies. <i>Mechanics of Materials</i> , 2019, 137, 103144.	1.7	18
61	Unusual thermal properties of graphene origami crease: A molecular dynamics study. <i>Green Energy and Environment</i> , 2022, 7, 86-94.	4.7	18
62	Three dimensional K-Tz stress fields around the embedded center elliptical crack front in elastic plates. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2006, 22, 148-155.	1.5	17
63	Size-dependent elastic properties of crystalline polymers via a molecular mechanics model. <i>Applied Physics Letters</i> , 2011, 99, .	1.5	17
64	Binding energy and mechanical stability of single- and multi-walled carbon nanotube serpentines. <i>Journal of Chemical Physics</i> , 2014, 140, 204704.	1.2	17
65	Large stretchability and failure mechanism of graphene kirigami under tension. <i>Soft Matter</i> , 2017, 13, 8930-8939.	1.2	16
66	Additive manufacturing of elastomeric foam with cell unit design for broadening compressive stress plateau. <i>Rapid Prototyping Journal</i> , 2018, 24, 1579-1585.	1.6	15
67	Finite element analysis and molecular dynamics simulations of nanoscale crack-hole interactions in chiral graphene nanoribbons. <i>Engineering Fracture Mechanics</i> , 2019, 218, 106571.	2.0	15
68	Size-dependent mechanical behavior of nanoscale polymer particles through coarse-grained molecular dynamics simulation. <i>Nanoscale Research Letters</i> , 2013, 8, 541.	3.1	14
69	Quasi-analytical solution for the stable system of the multi-layer folded graphene wrinkles. <i>Journal of Applied Physics</i> , 2013, 114, 063511.	1.1	14
70	Buckling behaviour of composites with double walled nanotubes from carbon and phosphorus. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 10922-10930.	1.3	14
71	Molecular Insights into the Abnormal Wetting Behavior of Ionic Liquids Induced by the Solidified Ionic Layer. <i>Industrial & Engineering Chemistry Research</i> , 2020, 59, 8028-8036.	1.8	14
72	The in-plane and out-of-plane stress constraint factors and K-T-Tz description of stress fields near the border of a quarter-elliptical corner crack. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2007, 30, 673-681.	1.7	13

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73	Nonlinear vibrations of circular single-layer black phosphorus resonators. <i>Applied Physics Letters</i> , 2018, 113, .	1.5	13
74	Modulating mechanical anisotropy of two-dimensional materials by controlling their defects. <i>Carbon</i> , 2020, 158, 77-88.	5.4	13
75	Strain rate effects on dynamic tensile properties of open-hole composite laminates. <i>Composites Communications</i> , 2020, 19, 226-232.	3.3	13
76	Arbitrary-shape-adaptable strain sensor array with optimized circuit layout via direct-ink-writing: Scalable design and hierarchical printing. <i>Materials and Design</i> , 2022, 214, 110388.	3.3	13
77	Thermal conductivity of Aluminum/Graphene metal-matrix composites: From the thermal boundary conductance to thermal regulation. <i>Materials Today Communications</i> , 2022, 30, 103147.	0.9	13
78	Elasticity of Single-Crystal Calcite by First-Principles Calculations. <i>Journal of Computational and Theoretical Nanoscience</i> , 2009, 6, 1181-1188.	0.4	12
79	Defect-activated self-assembly of multilayered graphene paper: a mechanically robust architecture with high strength. <i>Journal of Materials Chemistry A</i> , 2013, 1, 2002-2010.	5.2	12
80	Binding energy and mechanical stability of two parallel and crossing carbon nanotubes. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2015, 471, 20150229.	1.0	12
81	Thermal Transport in Graphene Oxide Films: Theoretical Analysis and Molecular Dynamics Simulation. <i>Nanomaterials</i> , 2020, 10, 285.	1.9	12
82	A heat and force locating sensor with nanoscale precision: a knitted graphene sheet. <i>Nanoscale</i> , 2021, 13, 5826-5833.	2.8	12
83	The Vibration of a Linear Carbon Chain in Carbon Nanotubes. <i>Materials</i> , 2017, 10, 478.	1.3	11
84	Efficient selection methods for black phosphorene nanoribbons. <i>Nanoscale</i> , 2018, 10, 4385-4390.	2.8	11
85	Fracture properties of nanoscale single-crystal silicon plates: Molecular dynamics simulations and finite element method. <i>Engineering Fracture Mechanics</i> , 2018, 202, 1-19.	2.0	11
86	Buckling behaviors of single-walled carbon nanotubes inserted with a linear carbon-atom chain. <i>Nanotechnology</i> , 2018, 29, 335704.	1.3	11
87	Crease-induced targeted cutting and folding of graphene origami. <i>Carbon</i> , 2020, 165, 259-266.	5.4	11
88	Huge stretchability and reversibility of helical graphenes using molecular dynamics simulations and simplified theoretical models. <i>Mechanics of Materials</i> , 2021, 153, 103683.	1.7	11
89	An analytical molecular mechanics model for the elastic properties of crystalline polyethylene. <i>Journal of Applied Physics</i> , 2012, 112, 033516.	1.1	10
90	Elastic T-stress and I-II mixed mode stress intensity factors for a through-wall crack in an inner-pressured pipe. <i>International Journal of Pressure Vessels and Piping</i> , 2018, 159, 67-72.	1.2	10

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91	Thermal Conductivity of Two Types of 2D Carbon Allotropes: a Molecular Dynamics Study. <i>Nanoscale Research Letters</i> , 2019, 14, 7.	3.1	10
92	Strain engineering for thermal conductivity of diamond nanothread forests. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 085301.	1.3	9
93	Three-parameter description of the stress field near the border of an embedded elliptical crack. <i>Acta Mechanica</i> , 2007, 190, 29-44.	1.1	8
94	A theoretical analysis of peeling behavior between nanowires and substrates in the ambient condition with high relative humidity. <i>Mechanics of Materials</i> , 2017, 114, 243-253.	1.7	8
95	The chirality-dependent fracture properties of single-layer graphene sheets: Molecular dynamics simulations and finite element method. <i>Journal of Applied Physics</i> , 2017, 122, .	1.1	8
96	Local strain field engineering on interfacial thermal resistance of graphene nanoribbon. <i>Applied Physics Letters</i> , 2018, 112, .	1.5	8
97	Constitutive modeling of neo-Hookean materials with spherical voids in finite deformation. <i>Extreme Mechanics Letters</i> , 2018, 24, 47-57.	2.0	8
98	Thermo-mechanical vibration of a single-layer graphene sheet and a single-walled carbon nanotube on a substrate. <i>Journal of Applied Physics</i> , 2017, 121, .	1.1	7
99	Loading direction-dependent shear behavior at different temperatures of single-layer chiral graphene sheets. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2018, 34, 542-548.	1.5	7
100	Improvements of mechanical properties of multilayer open-hole graphene papers. <i>Journal of Applied Physics</i> , 2019, 126, 104301.	1.1	7
101	Size-sensitive Young's modulus of kinked silicon nanowires. <i>Nanotechnology</i> , 2013, 24, 185702.	1.3	6
102	Does Hooke's law work in helical nanosprings?. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 20990-20997.	1.3	6
103	Plastic Behavior of Metallic Damping Materials under Cyclical Shear Loading. <i>Materials</i> , 2016, 9, 496.	1.3	6
104	The Young's moduli of three types of carbon allotropes: a molecular mechanics model and a finite-element method. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2016, 472, 20150628.	1.0	6
105	The peeling behavior of nanowires and carbon nanotubes from a substrate using continuum modeling. <i>Journal of Applied Physics</i> , 2017, 121, .	1.1	6
106	Fracture Toughnesses and Crack Growth Angles of Single-Layer Graphyne Sheets. <i>Acta Mechanica Solida Sinica</i> , 2019, 32, 339-355.	1.0	6
107	Water flow inside various geometric nano-confinement channels. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 24633-24639.	1.3	6
108	Computational Study on Strain-Engineered Graphene Nanopores for Selective Gas Separation. <i>ACS Applied Nano Materials</i> , 2020, 3, 11474-11480.	2.4	6

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109	Coarse-Grained Potentials of Poly(vinyl alcohol)/Graphene Oxide Interfaces. <i>Macromolecules</i> , 2022, 55, 1104-1119.	2.2	6
110	Coarse-Grained Molecular Dynamics Simulations on Size Effect of Glassy Polyethylene Particles. <i>Journal of Nanoscience and Nanotechnology</i> , 2010, 10, 7340-7342.	0.9	5
111	Superhigh moduli and tension-induced phase transition of monolayer gamma-boron at finite temperatures. <i>Scientific Reports</i> , 2016, 6, 23233.	1.6	5
112	Nonlinear vibrations of helical graphene resonators in the dynamic nano-indentation testing. <i>Nanotechnology</i> , 2020, 31, 025709.	1.3	5
113	Mechanical properties of CNT-reinforced Ni3Al composites: the role of chirality, temperature, and volume fraction. <i>Journal of Physics Condensed Matter</i> , 2020, 32, 205301.	0.7	5
114	Shear properties of the liquid bridge between two graphene films using a refined molecular kinetics theory and molecular dynamics simulations. <i>Mechanics of Materials</i> , 2019, 137, 103124.	1.7	4
115	Influence of adhesion strength on cavitation erosion resistance of diamond-like carbon coating. <i>Industrial Lubrication and Tribology</i> , 2019, 71, 724-730.	0.6	4
116	A black phosphorus nanoconveyor belt system. <i>Applied Physics Letters</i> , 2019, 115, .	1.5	4
117	Fracture behavior dependent on crack-tip shapes in nanoscale crack-defect monolayer boron nitride sheets. <i>International Journal of Smart and Nano Materials</i> , 2021, 12, 36-48.	2.0	4
118	Interlayer shear coupling in bilayer graphene. <i>Npj 2D Materials and Applications</i> , 2022, 6, .	3.9	4
119	Mechanotunable monatomic metal structures at graphene edges. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 10295.	1.3	3
120	The vibration of nanosprings affected by van der Waals interactions. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2016, 472, 20160242.	1.0	3
121	High ductile fracture of a low-yield-strength steel with a part-through curve crack. <i>Acta Mechanica</i> , 2019, 230, 319-331.	1.1	3
122	Bubble–bubble interaction effects on multiple bubbles dynamics in an ultrasonic cavitation field. <i>Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology</i> , 2020, 234, 1051-1060.	1.0	3
123	Tuning graphene thermal modulator by rotating. <i>International Journal of Smart and Nano Materials</i> , 2020, 11, 310-323.	2.0	3
124	Strain-Rate Effect on the Stress and Strain Concentration in a Visco-Plastic Plate With An Elliptic Hole. <i>International Journal of Steel Structures</i> , 2020, 20, 1256-1267.	0.6	3
125	Nonlinear vibrations of carbon chain resonators tuned by temperature. <i>Materials Research Express</i> , 2017, 4, 105026.	0.8	2
126	Finite Element Simulations of Dynamic Fracture of Full-Scale Gas Transmission Pipelines. <i>Acta Mechanica Solida Sinica</i> , 2018, 31, 357-368.	1.0	2

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127	A modified direct measurement of shear moduli of two-dimensional materials. <i>Journal of Applied Physics</i> , 2018, 124, .	1.1	2
128	Thermo-breathing vibration of carbon nanoscrolls. <i>Journal of Applied Physics</i> , 2019, 126, 014301.	1.1	2
129	Flexural Wave Propagation in Mass Chain-Filled Carbon Nanotubes. <i>Materials</i> , 2019, 12, 2986.	1.3	2
130	Numerical study of thermal conductivity based on phosphorene anisotropy: Including [110] direction and related phosphorus nanotubes. <i>Materials Today Communications</i> , 2020, 22, 100814.	0.9	2
131	Stabilities and catapults of truncated carbon nanocones. <i>Nanotechnology</i> , 2021, 32, 185705.	1.3	2
132	An anti-shrinkage model of an ultraviolet-curing coating filled with hollow polyurethane acrylate microspheres. <i>Mechanics of Materials</i> , 2021, 163, 104091.	1.7	2
133	Surface effect induced thickness-dependent stress intensity factors of nano-thickness cracked metal plates. <i>Engineering Fracture Mechanics</i> , 2022, 261, 108235.	2.0	2
134	Revealing Density Thresholds of Carbon Nanotube Cross-Links for Load Transfer: A Graph Theory Strategy. <i>ACS Nano</i> , 2022, 16, 6929-6936.	7.3	2
135	A nonlinear continuum model of van der Waals interactions in crystalline polymers. <i>Acta Mechanica</i> , 2015, 226, 3495-3499.	1.1	1
136	Interfacial thermal conductance of buckling carbon nanotubes. <i>AIP Advances</i> , 2018, 8, 065116.	0.6	1
137	Failure mode transformation of ZnO nanowires under uniaxial compression: from phase transition to buckling. <i>Nanotechnology</i> , 2019, 30, 375702.	1.3	1
138	Effect of T-Shape Shoulder Fillet on the Plastic Deformation Properties of SS400 and LYS160 Steel. <i>Materials</i> , 2020, 13, 1528.	1.3	1
139	Accurate prediction of shear buckling capacity of low-yield-strength steel considering plastic deformations. <i>Journal of Constructional Steel Research</i> , 2020, 172, 106183.	1.7	1
140	An analogous ellipse equation for describing the coupling relationship of friction and adhesion between a probe tip and graphene. <i>Mechanics of Materials</i> , 2021, 156, 103791.	1.7	1
141	A theoretical study on three long-range interactions between two nanoparticles under the humid condition. <i>Journal of Applied Physics</i> , 2020, 128, 095107.	1.1	0
142	Strain-rate-dependent constitutive and damage models for a low-yielding-strength steel under dynamic loadings. <i>Journal of Mechanical Science and Technology</i> , 2021, 35, 4405-4417.	0.7	0