

Yong-Wei Zhang

List of Publications by Year in descending order

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515
papers

34,546
citations

4120

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4870

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521
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521
docs citations

521
times ranked

34875
citing authors

#	ARTICLE	IF	CITATIONS
1	Epidermal Electronics. <i>Science</i> , 2011, 333, 838-843.	6.0	3,944
2	The Role of Surface Oxygen in the Growth of Large Single-Crystal Graphene on Copper. <i>Science</i> , 2013, 342, 720-723.	6.0	977
3	A review on mechanics and mechanical properties of 2D materials—Graphene and beyond. <i>Extreme Mechanics Letters</i> , 2017, 13, 42-77.	2.0	920
4	Structures, mechanical properties and applications of silk fibroin materials. <i>Progress in Polymer Science</i> , 2015, 46, 86-110.	11.8	811
5	Quasiparticle band structures and optical properties of strained monolayer MoS ₂ . <i>Physical Review B</i> , 2013, 87, .	1.1	764
6	Polarity-Reversed Robust Carrier Mobility in Monolayer MoS ₂ Nanoribbons. <i>Journal of the American Chemical Society</i> , 2014, 136, 6269-6275.	6.6	761
7	Layer-dependent Band Alignment and Work Function of Few-Layer Phosphorene. <i>Scientific Reports</i> , 2014, 4, 6677.	1.6	731
8	Ultrafast and Directional Diffusion of Lithium in Phosphorene for High-Performance Lithium-Ion Battery. <i>Nano Letters</i> , 2015, 15, 1691-1697.	4.5	628
9	Materials and noncoplanar mesh designs for integrated circuits with linear elastic responses to extreme mechanical deformations. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 18675-18680.	3.3	625
10	Extraordinary Photoluminescence and Strong Temperature/Angle-Dependent Raman Responses in Few-Layer Phosphorene. <i>ACS Nano</i> , 2014, 8, 9590-9596.	7.3	604
11	Towards intrinsic charge transport in monolayer molybdenum disulfide by defect and interface engineering. <i>Nature Communications</i> , 2014, 5, 5290.	5.8	563
12	Defect Engineering of Oxygen-Deficient Manganese Oxide to Achieve High-Performing Aqueous Zinc Ion Battery. <i>Advanced Energy Materials</i> , 2019, 9, 1803815.	10.2	504
13	A molecular dynamics study of the mechanical properties of hydrogen functionalized graphene. <i>Carbon</i> , 2010, 48, 898-904.	5.4	442
14	Lattice vibrational modes and phonon thermal conductivity of monolayer MoS ₂ . <i>Physical Review B</i> , 2014, 89, .	1.1	387
15	Protein Induces Layer-by-Layer Exfoliation of Transition Metal Dichalcogenides. <i>Journal of the American Chemical Society</i> , 2015, 137, 6152-6155.	6.6	365
16	Energetics, Charge Transfer, and Magnetism of Small Molecules Physisorbed on Phosphorene. <i>Journal of Physical Chemistry C</i> , 2015, 119, 3102-3110.	1.5	347
17	Edge-Stress-Induced Warping of Graphene Sheets and Nanoribbons. <i>Physical Review Letters</i> , 2008, 101, 245501.	2.9	321
18	Electronic Properties of Phosphorene/Graphene and Phosphorene/Hexagonal Boron Nitride Heterostructures. <i>Journal of Physical Chemistry C</i> , 2015, 119, 13929-13936.	1.5	295

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19	Analyzing the Carrier Mobility in Transition-Metal Dichalcogenide MoS ₂ Field-Effect Transistors. <i>Advanced Functional Materials</i> , 2017, 27, 1604093.	7.8	265
20	Edge-dependent structural, electronic and magnetic properties of MoS ₂ nanoribbons. <i>Journal of Materials Chemistry</i> , 2012, 22, 7280.	6.7	250
21	Strong Thermal Transport Anisotropy and Strain Modulation in Single-Layer Phosphorene. <i>Journal of Physical Chemistry C</i> , 2014, 118, 25272-25277.	1.5	250
22	High-Performance Monolayer WS ₂ Field-Effect Transistors on High- ϵ_r Dielectrics. <i>Advanced Materials</i> , 2015, 27, 5230-5234.	11.1	218
23	Realization of Room-Temperature Phonon-Limited Carrier Transport in Monolayer MoS ₂ by Dielectric and Carrier Screening. <i>Advanced Materials</i> , 2016, 28, 547-552.	11.1	218
24	Tuning the Electronic and Magnetic Properties of MoS ₂ Nanoribbons by Strain Engineering. <i>Journal of Physical Chemistry C</i> , 2012, 116, 11752-11757.	1.5	212
25	Analysis of nanoindentation creep for polymeric materials. <i>Journal of Applied Physics</i> , 2004, 95, 3655-3666.	1.1	204
26	Preparation, morphology and thermal/mechanical properties of epoxy/nanoclay composite. <i>Composites Part A: Applied Science and Manufacturing</i> , 2006, 37, 1890-1896.	3.8	204
27	Thermoelectric properties of two-dimensional transition metal dichalcogenides. <i>Journal of Materials Chemistry C</i> , 2017, 5, 7684-7698.	2.7	204
28	Surface-Charge-Mediated Formation of H ₂ TiO ₂ @Ni(OH) ₂ Heterostructures for High-Performance Supercapacitors. <i>Advanced Materials</i> , 2017, 29, 1604164.	11.1	203
29	Giant Phononic Anisotropy and Unusual Anharmonicity of Phosphorene: Interlayer Coupling and Strain Engineering. <i>Advanced Functional Materials</i> , 2015, 25, 2230-2236.	7.8	198
30	Dislocation-twin interaction mechanisms for ultrahigh strength and ductility in nanotwinned metals. <i>Acta Materialia</i> , 2009, 57, 4508-4518.	3.8	192
31	Artificial Synapses Based on Multiterminal Memtransistors for Neuromorphic Application. <i>Advanced Functional Materials</i> , 2019, 29, 1901106.	7.8	192
32	On optimal hierarchy of load-bearing biological materials. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2011, 278, 519-525.	1.2	183
33	Atomic Scale Fluctuations Govern Brittle Fracture and Cavitation Behavior in Metallic Glasses. <i>Physical Review Letters</i> , 2011, 107, 215501.	2.9	177
34	A theoretical analysis of the thermal conductivity of hydrogenated graphene. <i>Carbon</i> , 2011, 49, 4752-4759.	5.4	176
35	Phonon thermal conductivity of monolayer MoS ₂ sheet and nanoribbons. <i>Applied Physics Letters</i> , 2013, 103, 133113.	1.5	167
36	Size-Dependent Deformation of Nanocrystalline Pt Nanopillars. <i>Nano Letters</i> , 2012, 12, 6385-6392.	4.5	162

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37	Manipulating the Thermal Conductivity of Monolayer MoS ₂ via Lattice Defect and Strain Engineering. <i>Journal of Physical Chemistry C</i> , 2015, 119, 16358-16365.	1.5	161
38	Monodisperse silicananoparticles encapsulating upconversion fluorescent and superparamagnetic nanocrystals. <i>Chemical Communications</i> , 2008, , 694-696.	2.2	160
39	Thermal conductivities of single- and multi-layer phosphorene: a molecular dynamics study. <i>Nanoscale</i> , 2016, 8, 483-491.	2.8	159
40	Exciton-dominated Dielectric Function of Atomically Thin MoS ₂ Films. <i>Scientific Reports</i> , 2015, 5, 16996.	1.6	155
41	Engineering Substrate Interactions for High Luminescence Efficiency of Transitionâ€Metal Dichalcogenide Monolayers. <i>Advanced Functional Materials</i> , 2016, 26, 4733-4739.	7.8	154
42	Optimized Structural Designs for Stretchable Silicon Integrated Circuits. <i>Small</i> , 2009, 5, 2841-2847.	5.2	153
43	On the strength of Î²-sheet crystallites of <i>Bombyx mori</i> silk fibroin. <i>Journal of the Royal Society Interface</i> , 2014, 11, 20140305.	1.5	146
44	Alâ€Doped Black Phosphorus pâ€n Homojunction Diode for High Performance Photovoltaic. <i>Advanced Functional Materials</i> , 2017, 27, 1604638.	7.8	145
45	Effects of H-, N-, and (H, N)-Doping on the Photocatalytic Activity of TiO ₂ . <i>Journal of Physical Chemistry C</i> , 2011, 115, 12224-12231.	1.5	144
46	Controlling of residual stress in additive manufacturing of Ti6Al4V by finite element modeling. <i>Additive Manufacturing</i> , 2016, 12, 231-239.	1.7	141
47	Anisotropic Growth of Titania onto Various Gold Nanostructures: Synthesis, Theoretical Understanding, and Optimization for Catalysis. <i>Angewandte Chemie - International Edition</i> , 2011, 50, 10140-10143.	7.2	139
48	Strain effects on thermoelectric properties of two-dimensional materials. <i>Mechanics of Materials</i> , 2015, 91, 382-398.	1.7	137
49	Effects of grain size, temperature and strain rate on the mechanical properties of polycrystalline graphene â€ A molecular dynamics study. <i>Carbon</i> , 2015, 85, 135-146.	5.4	136
50	Highly Itinerant Atomic Vacancies in Phosphorene. <i>Journal of the American Chemical Society</i> , 2016, 138, 10199-10206.	6.6	134
51	Fewâ€Layer Black Phosphorus Carbide Fieldâ€Effect Transistor via Carbon Doping. <i>Advanced Materials</i> , 2017, 29, 1700503.	11.1	133
52	Metalâ€organic framework-derived hierarchical MoS ₂ /CoS ₂ nanotube arrays as pH-universal electrocatalysts for efficient hydrogen evolution. <i>Journal of Materials Chemistry A</i> , 2019, 7, 13339-13346.	5.2	133
53	Strong ferromagnetism in hydrogenated monolayer MoS ₂ tuned by strain. <i>Physical Review B</i> , 2013, 88, .	1.1	130
54	Substitutionally doped phosphorene: electronic properties and gas sensing. <i>Nanotechnology</i> , 2016, 27, 065708.	1.3	130

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55	Recent Advances in the Study of Phosphorene and its Nanostructures. Critical Reviews in Solid State and Materials Sciences, 2017, 42, 1-82.	6.8	130
56	Topological Defects at the Graphene/h-BN interface Abnormally Enhance Its Thermal Conductance. Nano Letters, 2016, 16, 4954-4959.	4.5	129
57	High oscillator strength interlayer excitons in two-dimensional heterostructures for mid-infrared photodetection. Nature Nanotechnology, 2020, 15, 675-682.	15.6	129
58	Phase field simulation of powder bed-based additive manufacturing. Acta Materialia, 2018, 144, 801-809.	3.8	127
59	Alignment Controlled Growth of Single-Walled Carbon Nanotubes on Quartz Substrates. Nano Letters, 2009, 9, 4311-4319.	4.5	125
60	Nanoscale Transition Metal Dichalcogenides: Structures, Properties, and Applications. Critical Reviews in Solid State and Materials Sciences, 2014, 39, 319-367.	6.8	125
61	A Fully Printed Flexible MoS ₂ Memristive Artificial Synapse with Femtojoule Switching Energy. Advanced Electronic Materials, 2019, 5, 1900740.	2.6	123
62	Ab Initio Study on a Novel Photocatalyst: Functionalized Graphitic Carbon Nitride Nanotube. ACS Catalysis, 2011, 1, 99-104.	5.5	118
63	Tuning the thermal conductivity of silicene with tensile strain and isotopic doping: A molecular dynamics study. Journal of Applied Physics, 2013, 114, .	1.1	118
64	Effect of particle size on erosion characteristics. Wear, 2016, 348-349, 126-137.	1.5	118
65	Electronic Properties of Edge-Hydrogenated Phosphorene Nanoribbons: A First-Principles Study. Journal of Physical Chemistry C, 2014, 118, 22368-22372.	1.5	117
66	Mechanical properties of methyl functionalized graphene: a molecular dynamics study. Nanotechnology, 2010, 21, 115709.	1.3	116
67	Interfacial thermal conductance in graphene/MoS ₂ heterostructures. Carbon, 2016, 96, 888-896.	5.4	116
68	Simultaneously enhancing the ultimate strength and ductility of high-entropy alloys via short-range ordering. Nature Communications, 2021, 12, 4953.	5.8	116
69	A transition from localized shear banding to homogeneous superplastic flow in nanoglass. Applied Physics Letters, 2013, 103, .	1.5	110
70	Gapless MoS_2 possessing both massless Dirac and heavy fermions. Physical Review B, 2014, 89, .	4.09	109
71	Direct n- to p-Type Channel Conversion in Monolayer/Few-Layer WS ₂ Field-Effect Transistors by Atomic Nitrogen Treatment. ACS Nano, 2018, 12, 2506-2513.	7.3	107
72	Edge elastic properties of defect-free single-layer graphene sheets. Applied Physics Letters, 2009, 94, .	1.5	106

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73	Hydrogen adsorption on and diffusion through MoS ₂ monolayer: First-principles study. International Journal of Hydrogen Energy, 2012, 37, 14323-14328.	3.8	105
74	Slurry erosion characteristics and erosion mechanisms of stainless steel. Tribology International, 2014, 79, 1-7.	3.0	105
75	An experimental and simulation study on build thickness dependent microstructure for electron beam melted Ti-6Al-4V. Journal of Alloys and Compounds, 2015, 646, 303-309.	2.8	105
76	Modulating Carrier Density and Transport Properties of MoS ₂ by Organic Molecular Doping and Defect Engineering. Chemistry of Materials, 2016, 28, 8611-8621.	3.2	105
77	Nanowire Failure: Long = Brittle and Short = Ductile. Nano Letters, 2012, 12, 910-914.	4.5	104
78	Mechanical properties and fracture behavior of single-layer phosphorene at finite temperatures. Journal Physics D: Applied Physics, 2015, 48, 395303.	1.3	103
79	The role of H ₂ O and O ₂ molecules and phosphorus vacancies in the structure instability of phosphorene. 2D Materials, 2017, 4, 015010.	2.0	101
80	Effects of temperature and strain rate on the mechanical properties of silicene. Journal of Applied Physics, 2014, 115, .	1.1	100
81	Stretchable Semiconductor Technologies with High Areal Coverages and Strain-Limiting Behavior: Demonstration in High-Efficiency Dual-Junction GaInP/GaAs Photovoltaics. Small, 2012, 8, 1851-1856.	5.2	97
82	Oscillatory behavior of C60-nanotube oscillators: A molecular-dynamics study. Journal of Applied Physics, 2005, 97, 094313.	1.1	96
83	First-principles study on hydrogen storage by graphitic carbon nitride nanotubes. International Journal of Hydrogen Energy, 2012, 37, 4170-4178.	3.8	96
84	Hall-Petch and inverse Hall-Petch relations in high-entropy CoNiFeAl _x Cu _{1-x} alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 773, 138873.	2.6	93
85	An Anomalous Formation Pathway for Dislocation-Sulfur Vacancy Complexes in Polycrystalline Monolayer MoS ₂ . Nano Letters, 2015, 15, 6855-6861.	4.5	90
86	An experimental and theoretical investigation of the anisotropic branching in gold nanocrosses. Nanoscale, 2016, 8, 543-552.	2.8	90
87	Strain-tunable electronic and transport properties of MoS ₂ nanotubes. Nano Research, 2014, 7, 518-527.	5.8	89
88	Study of Materials Deformation in Nanometric Cutting by Large-scale Molecular Dynamics Simulations. Nanoscale Research Letters, 2009, 4, 444-451.	3.1	88
89	Numerical simulations of island formation in a coherent strained epitaxial thin film system. Journal of the Mechanics and Physics of Solids, 1999, 47, 2273-2297.	2.3	87
90	Deformation mechanisms, length scales and optimizing the mechanical properties of nanotwinned metals. Acta Materialia, 2011, 59, 6890-6900.	3.8	87

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91	A combined numerical"experimental study on the effect of surface evolution on the water"sand multiphase flow characteristics and the material erosion behavior. <i>Wear</i> , 2014, 319, 96-109.	1.5	85
92	Spontaneous Curling of Graphene Sheets with Reconstructed Edges. <i>ACS Nano</i> , 2010, 4, 4840-4844.	7.3	84
93	Modeling and simulation of buckling of polymeric membrane thin film gel. <i>Computational Materials Science</i> , 2010, 49, S60-S64.	1.4	84
94	From brittle to ductile: a structure dependent ductility of diamond nanothread. <i>Nanoscale</i> , 2016, 8, 11177-11184.	2.8	84
95	Charge Transfer and Functionalization of Monolayer InSe by Physisorption of Small Molecules for Gas Sensing. <i>Journal of Physical Chemistry C</i> , 2017, 121, 10182-10193.	1.5	83
96	Carbon isotope doping induced interfacial thermal resistance and thermal rectification in graphene. <i>Applied Physics Letters</i> , 2012, 100, .	1.5	80
97	Effect of impact angle and testing time on erosion of stainless steel at higher velocities. <i>Wear</i> , 2014, 321, 87-93.	1.5	80
98	Inverse Pseudo Hall-Petch Relation in Polycrystalline Graphene. <i>Scientific Reports</i> , 2014, 4, 5991.	1.6	79
99	Convenient purification of gold clusters by co-precipitation for improved sensing of hydrogen peroxide, mercury ions and pesticides. <i>Chemical Communications</i> , 2014, 50, 5703.	2.2	78
100	Mechanisms of Failure in Nanoscale Metallic Glass. <i>Nano Letters</i> , 2014, 14, 5858-5864.	4.5	78
101	Strain stabilized nickel hydroxide nanoribbons for efficient water splitting. <i>Energy and Environmental Science</i> , 2020, 13, 229-237.	15.6	78
102	Thermal conductivity of fluorinated graphene: A non-equilibrium molecular dynamics study. <i>Chemical Physics Letters</i> , 2012, 552, 97-101.	1.2	77
103	Size Effect Suppresses Brittle Failure in Hollow Cu ₆₀ Zr ₄₀ Metallic Glass Nanolattices Deformed at Cryogenic Temperatures. <i>Nano Letters</i> , 2015, 15, 5673-5681.	4.5	77
104	Exploring the charge localization and band gap opening of borophene: a first-principles study. <i>Nanoscale</i> , 2018, 10, 1403-1410.	2.8	77
105	ANALYTICAL SOLUTIONS OF POLYMERIC GEL STRUCTURES UNDER BUCKLING AND WRINKLE. <i>International Journal of Applied Mechanics</i> , 2011, 03, 235-257.	1.3	76
106	The inverse hall"petch relation in nanocrystalline metals: A discrete dislocation dynamics analysis. <i>Journal of the Mechanics and Physics of Solids</i> , 2016, 88, 252-266.	2.3	76
107	A numerical study on the effect of particle shape on the erosion of ductile materials. <i>Wear</i> , 2014, 313, 135-142.	1.5	75
108	A novel singular ES-FEM method for simulating singular stress fields near the crack tips for linear fracture problems. <i>Engineering Fracture Mechanics</i> , 2011, 78, 863-876.	2.0	74

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109	A supertough electro-tendon based on spider silk composites. <i>Nature Communications</i> , 2020, 11, 1332.	5.8	73
110	The Critical Role of Substrate in Stabilizing Phosphorene Nanoflake: A Theoretical Exploration. <i>Journal of the American Chemical Society</i> , 2016, 138, 4763-4771.	6.6	72
111	A theoretical analysis of frictional and defect characteristics of graphene probed by a capped single-walled carbon nanotube. <i>Carbon</i> , 2011, 49, 3687-3697.	5.4	71
112	Superior lattice thermal conductance of single-layer borophene. <i>Npj 2D Materials and Applications</i> , 2017, 1, .	3.9	70
113	On intrinsic brittleness and ductility of intergranular fracture along symmetrical tilt grain boundaries in copper. <i>Acta Materialia</i> , 2010, 58, 2293-2299.	3.8	69
114	On the notch sensitivity of CuZr metallic glasses. <i>Applied Physics Letters</i> , 2013, 103, .	1.5	68
115	Nanostructure and surface effects on yield in Cu nanowires. <i>Acta Materialia</i> , 2013, 61, 1831-1842.	3.8	68
116	Composition and grain size effects on the structural and mechanical properties of CuZr nanoglasses. <i>Journal of Applied Physics</i> , 2014, 116, .	1.1	68
117	Robust Direct Bandgap Characteristics of One- and Two-Dimensional ReS ₂ . <i>Scientific Reports</i> , 2015, 5, 13783.	1.6	68
118	Necking and notch strengthening in metallic glass with symmetric sharp-and-deep notches. <i>Scientific Reports</i> , 2015, 5, 10797.	1.6	68
119	Large Electronic Anisotropy and Enhanced Chemical Activity of Highly Rippled Phosphorene. <i>Journal of Physical Chemistry C</i> , 2016, 120, 6876-6884.	1.5	68
120	Electrostatic-Driven Exfoliation and Hybridization of 2D Nanomaterials. <i>Advanced Materials</i> , 2017, 29, 1700326.	11.1	68
121	A first-principles study on the adsorption of small molecules on antimonene: oxidation tendency and stability. <i>Journal of Materials Chemistry C</i> , 2018, 6, 4308-4317.	2.7	68
122	In-plane and cross-plane thermal conductivities of molybdenum disulfide. <i>Nanotechnology</i> , 2015, 26, 065703.	1.3	67
123	Unravelling $V_{O_{13}}$ Diffusion Pathways <i>via</i> CO_2 Modification for High-Performance Zinc Ion Battery Cathode. <i>ACS Nano</i> , 2021, 15, 1273-1281.	7.3	67
124	Design of Phosphorene for Hydrogen Evolution Performance Comparable to Platinum. <i>Chemistry of Materials</i> , 2019, 31, 8948-8956.	3.2	66
125	Peptide-Graphene Interactions Enhance the Mechanical Properties of Silk Fibroin. <i>ACS Applied Materials & Interfaces</i> , 2015, 7, 21787-21796.	4.0	64
126	Diamond Nanothread as a New Reinforcement for Nanocomposites. <i>Advanced Functional Materials</i> , 2016, 26, 5279-5283.	7.8	63

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127	Thermal properties of two-dimensional materials. Chinese Physics B, 2017, 26, 034401.	0.7	63
128	Simultaneous edge and electronic control of MoS ₂ nanosheets through Fe doping for an efficient oxygen evolution reaction. Nanoscale, 2018, 10, 20113-20119.	2.8	63
129	Temperature-dependent bending rigidity of graphene. Applied Physics Letters, 2009, 94, .	1.5	62
130	Black Phosphorus n-Type Field-Effect Transistor with Ultrahigh Electron Mobility via Aluminum Adatoms Doping. Small, 2017, 13, 1602909.	5.2	61
131	GaN/ZnO superlattice nanowires as photocatalyst for hydrogen generation: A first-principles study on electronic and magnetic properties. Nano Energy, 2012, 1, 488-493.	8.2	60
132	The structure and elastic properties of phosphorene edges. Nanotechnology, 2015, 26, 235707.	1.3	60
133	Wafer-scale solution-processed 2D material analog resistive memory array for memory-based computing. Nature Communications, 2022, 13, .	5.8	60
134	Thermal conductivity of silicon nanowires: From fundamentals to phononic engineering. Physica Status Solidi - Rapid Research Letters, 2013, 7, 754-766.	1.2	59
135	Large-scale molecular dynamics simulations of wear in diamond-like carbon at the nanoscale. Applied Physics Letters, 2013, 103, .	1.5	59
136	MoS ₂ -graphene in-plane contact for high interfacial thermal conduction. Nano Research, 2017, 10, 2944-2953.	5.8	59
137	Microstructure versus Flaw: Mechanisms of Failure and Strength in Nanostructures. Nano Letters, 2013, 13, 5703-5709.	4.5	58
138	On the failure load and mechanism of polycrystalline graphene by nanoindentation. Scientific Reports, 2014, 4, 7437.	1.6	58
139	Exploring Ag(111) Substrate for Epitaxially Growing Monolayer Stanene: A First-Principles Study. Scientific Reports, 2016, 6, 29107.	1.6	58
140	Black Phosphorus Carbide as a Tunable Anisotropic Plasmonic Metasurface. ACS Photonics, 2018, 5, 3116-3123.	3.2	58
141	Nanoindentation of Polymers with a Sharp Indenter. Journal of Materials Research, 2005, 20, 1597-1605.	1.2	57
142	Stress gradient enhanced plasticity in a monolithic bulk metallic glass. Intermetallics, 2008, 16, 1190-1198.	1.8	57
143	Tunable Mechanical and Thermal Properties of One-Dimensional Carbyne Chain: Phase Transition and Microscopic Dynamics. Journal of Physical Chemistry C, 2015, 119, 24156-24164.	1.5	57
144	Polycrystal deformation in a discrete dislocation dynamics framework. Acta Materialia, 2014, 75, 92-105.	3.8	56

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145	Strain and defect engineered monolayer Ni-MoS ₂ for pH-universal hydrogen evolution catalysis. <i>Nanoscale</i> , 2019, 11, 18329-18337.	2.8	56
146	Graphene-based pressure nano-sensors. <i>Journal of Molecular Modeling</i> , 2011, 17, 2825-2830.	0.8	55
147	A modified Tersoff potential for pure and hydrogenated diamond-like carbon. <i>Computational Materials Science</i> , 2013, 67, 146-150.	1.4	55
148	A comparative density functional study on electrical properties of layered penta-graphene. <i>Journal of Applied Physics</i> , 2015, 118, .	1.1	54
149	Atomic vacancies significantly degrade the mechanical properties of phosphorene. <i>Nanotechnology</i> , 2016, 27, 315704.	1.3	54
150	Predictive model for porosity in powder-bed fusion additive manufacturing at high beam energy regime. <i>Additive Manufacturing</i> , 2018, 22, 817-822.	1.7	54
151	Optical properties of InAs/GaAs surface quantum dots. <i>Applied Physics Letters</i> , 2005, 86, 031914.	1.5	52
152	Substantial tensile ductility in sputtered Zr-Ni-Al nano-sized metallic glass. <i>Acta Materialia</i> , 2016, 118, 270-285.	3.8	52
153	Shallow defects levels and extract detrapped charges to stabilize highly efficient and hysteresis-free perovskite photovoltaic devices. <i>Nano Energy</i> , 2020, 71, 104556.	8.2	51
154	Revealing high-fidelity phase selection rules for high entropy alloys: A combined CALPHAD and machine learning study. <i>Materials and Design</i> , 2021, 202, 109532.	3.3	51
155	Self-organization, shape transition, and stability of epitaxially strained islands. <i>Physical Review B</i> , 2000, 61, 10388-10392.	1.1	50
156	Extracting the mechanical properties of a viscoelastic polymeric film on a hard elastic substrate. <i>Journal of Materials Research</i> , 2004, 19, 3053-3061.	1.2	50
157	Three dimensional finite element analysis of the evolution of voids and thin films by strain and electromigration induced surface diffusion. <i>Journal of the Mechanics and Physics of Solids</i> , 1998, 47, 173-199.	2.3	49
158	Constructing metallic nanoroads on a MoS ₂ monolayer via hydrogenation. <i>Nanoscale</i> , 2014, 6, 1691-1697.	2.8	48
159	Controlling the thermal conductance of graphene interface with strain and structure engineering. <i>Physical Review B</i> , 2016, 93, .		
160	A singular cell-based smoothed radial point interpolation method for fracture problems. <i>Computers and Structures</i> , 2011, 89, 1378-1396.	2.4	47
161	Effect of aspect ratio on the mechanical properties of metallic glasses. <i>Scripta Materialia</i> , 2014, 93, 36-39.	2.6	47
162	Predicting shot peening coverage using multiphase computational fluid dynamics simulations. <i>Powder Technology</i> , 2014, 256, 100-112.	2.1	47

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163	Thermal Conduction Across Graphene Cross-Linkers. <i>Journal of Physical Chemistry C</i> , 2014, 118, 12541-12547.	1.5	47
164	Oscillatory behavior of gigahertz oscillators based on multiwalled carbon nanotubes. <i>Journal of Applied Physics</i> , 2005, 98, 014301.	1.1	46
165	Phonon mean free path spectrum and thermal conductivity for Si _{1-x} Gex nanowires. <i>Applied Physics Letters</i> , 2014, 104, .	1.5	46
166	Is the failure of large-area polycrystalline graphene notch sensitive or insensitive?. <i>Carbon</i> , 2014, 72, 200-206.	5.4	45
167	Chemical-Affinity Disparity and Exclusivity Drive Atomic Segregation, Short-Range Ordering, and Cluster Formation in High-Entropy Alloys. <i>Acta Materialia</i> , 2021, 206, 116638.	3.8	45
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