

# Ju Li

## List of Publications by Year in descending order

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547  
papers

57,639  
citations

766

119  
h-index

1532

218  
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564  
all docs

564  
docs citations

564  
times ranked

47083  
citing authors

#	ARTICLE	IF	CITATIONS
1	Quantum spin Hall effect in two-dimensional transition metal dichalcogenides. <i>Science</i> , 2014, 346, 1344-1347.	6.0	1,558
2	In Situ Observation of the Electrochemical Lithiation of a Single SnO <sub>2</sub> Nanowire Electrode. <i>Science</i> , 2010, 330, 1515-1520.	6.0	1,430
3	<i>Ab initio</i> calculation of ideal strength and phonon instability of graphene under tension. <i>Physical Review B</i> , 2007, 76, .	1.1	1,225
4	AtomEye: an efficient atomistic configuration viewer. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2003, 11, 173-177.	0.8	1,083
5	Carbothermal shock synthesis of high-entropy-alloy nanoparticles. <i>Science</i> , 2018, 359, 1489-1494.	6.0	1,065
6	Transition of lithium growth mechanisms in liquid electrolytes. <i>Energy and Environmental Science</i> , 2016, 9, 3221-3229.	15.6	1,054
7	Strain-engineered artificial atom as a broad-spectrum solar energy funnel. <i>Nature Photonics</i> , 2012, 6, 866-872.	15.6	907
8	Theory of Shear Banding in Metallic Glasses and Molecular Dynamics Calculations. <i>Materials Transactions</i> , 2007, 48, 2923-2927.	0.4	895
9	Size-Dependent Endocytosis of Nanoparticles. <i>Advanced Materials</i> , 2009, 21, 419-424.	11.1	895
10	Ultra-strength materials. <i>Progress in Materials Science</i> , 2010, 55, 710-757.	16.0	696
11	Anisotropic Swelling and Fracture of Silicon Nanowires during Lithiation. <i>Nano Letters</i> , 2011, 11, 3312-3318.	4.5	691
12	Ideal Pure Shear Strength of Aluminum and Copper. <i>Science</i> , 2002, 298, 807-811.	6.0	686
13	Atomistic mechanisms governing elastic limit and incipient plasticity in crystals. <i>Nature</i> , 2002, 418, 307-310.	13.7	621
14	Temperature and Strain-Rate Dependence of Surface Dislocation Nucleation. <i>Physical Review Letters</i> , 2008, 100, 025502.	2.9	587
15	Ultralow contact resistance between semimetal and monolayer semiconductors. <i>Nature</i> , 2021, 593, 211-217.	13.7	579
16	Giant piezoelectricity of monolayer group IV monochalcogenides: SnSe, SnS, GeSe, and GeS. <i>Applied Physics Letters</i> , 2015, 107, .	1.5	569
17	Strong crystal size effect on deformation twinning. <i>Nature</i> , 2010, 463, 335-338.	13.7	553
18	In situ atomic-scale imaging of electrochemical lithiation in silicon. <i>Nature Nanotechnology</i> , 2012, 7, 749-756.	15.6	533

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19	Interfacial plasticity governs strain rate sensitivity and ductility in nanostructured metals. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 3031-3036.	3.3	522
20	Fluorine-donating electrolytes enable highly reversible 5-V-class Li metal batteries. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 1156-1161.	3.3	512
21	Icosahedral Platinum Alloy Nanocrystals with Enhanced Electrocatalytic Activities. Journal of the American Chemical Society, 2012, 134, 11880-11883.	6.6	496
22	Pie-like electrode design for high-energy density lithium-sulfur batteries. Nature Communications, 2015, 6, 8850.	5.8	453
23	Intercalation-conversion hybrid cathodes enabling Li-S full-cell architectures with jointly superior gravimetric and volumetric energy densities. Nature Energy, 2019, 4, 374-382.	19.8	449
24	Mechanical instabilities of homogeneous crystals. Physical Review B, 1995, 52, 12627-12635.	1.1	432
25	Atomistic modeling of interfaces and their impact on microstructure and properties. Acta Materialia, 2010, 58, 1117-1151.	3.8	430
26	Self-healing SEI enables full-cell cycling of a silicon-majority anode with a coulombic efficiency exceeding 99.9%. Energy and Environmental Science, 2017, 10, 580-592.	15.6	421
27	Ductile crystalline-amorphous nanolaminates. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 11155-11160.	3.3	419
28	Indentation across size scales and disciplines: Recent developments in experimentation and modeling. Acta Materialia, 2007, 55, 4015-4039.	3.8	403
29	The evolving quality of frictional contact with graphene. Nature, 2016, 539, 541-545.	13.7	389
30	Spectrin-Level Modeling of the Cytoskeleton and Optical Tweezers Stretching of the Erythrocyte. Biophysical Journal, 2005, 88, 3707-3719.	0.2	376
31	Phase field modeling of defects and deformation. Acta Materialia, 2010, 58, 1212-1235.	3.8	365
32	How Solid-Electrolyte Interphase Forms in Aqueous Electrolytes. Journal of the American Chemical Society, 2017, 139, 18670-18680.	6.6	365
33	Quantifying the early stages of plasticity through nanoscale experiments and simulations. Physical Review B, 2003, 67, .	1.1	361
34	Liquid cell transmission electron microscopy observation of lithium metal growth and dissolution: Root growth, dead lithium and lithium flotsams. Nano Energy, 2017, 32, 271-279.	8.2	361
35	Reversible Nanopore Formation in Ge Nanowires during Lithiation-Delithiation Cycling: An In Situ Transmission Electron Microscopy Study. Nano Letters, 2011, 11, 3991-3997.	4.5	356
36	Approaching the ideal elastic limit of metallic glasses. Nature Communications, 2012, 3, 609.	5.8	345

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37	Coordination Polymers Derived General Synthesis of Multishelled Mixed Metal-Oxide Particles for Hybrid Supercapacitors. <i>Advanced Materials</i> , 2017, 29, 1605902.	11.1	345
38	In Situ TEM Experiments of Electrochemical Lithiation and Delithiation of Individual Nanostructures. <i>Advanced Energy Materials</i> , 2012, 2, 722-741.	10.2	341
39	Developing High-Performance Lithium Metal Anode in Liquid Electrolytes: Challenges and Progress. <i>Advanced Materials</i> , 2018, 30, e1706375.	11.1	335
40	Ideal shear strain of metals and ceramics. <i>Physical Review B</i> , 2004, 70, .	1.1	334
41	Li metal deposition and stripping in a solid-state battery via Coble creep. <i>Nature</i> , 2020, 578, 251-255.	13.7	333
42	Optoelectronic crystal of artificial atoms in strain-textured molybdenum disulphide. <i>Nature Communications</i> , 2015, 6, 7381.	5.8	331
43	Signature of Metallic Behavior in the Metal-Organic Frameworks $M_3(\text{hexaiminobenzene})_2$ ( $M = \text{Ni}, \text{Cu}$ ). <i>Journal of the American Chemical Society</i> , 2017, 139, 13608-13611.	6.6	324
44	Ultra-high-voltage Ni-rich layered cathodes in practical Li metal batteries enabled by a sulfonamide-based electrolyte. <i>Nature Energy</i> , 2021, 6, 495-505.	19.8	323
45	Microtwinning and other shearing mechanisms at intermediate temperatures in Ni-based superalloys. <i>Progress in Materials Science</i> , 2009, 54, 839-873.	16.0	305
46	Competition of shape and interaction patchiness for self-assembling nanoplates. <i>Nature Chemistry</i> , 2013, 5, 466-473.	6.6	278
47	Hydrogen embrittlement of ferritic steels: Observations on deformation microstructure, nanoscale dimples and failure by nanovoiding. <i>Acta Materialia</i> , 2012, 60, 5160-5171.	3.8	274
48	Reactive boride infusion stabilizes Ni-rich cathodes for lithium-ion batteries. <i>Nature Energy</i> , 2021, 6, 362-371.	19.8	274
49	Triple Point Topological Metals. <i>Physical Review X</i> , 2016, 6, .	2.8	273
50	Super-elastic ferroelectric single-crystal membrane with continuous electric dipole rotation. <i>Science</i> , 2019, 366, 475-479.	6.0	272
51	Probing the Failure Mechanism of $\text{SnO}_2$ Nanowires for Sodium-Ion Batteries. <i>Nano Letters</i> , 2013, 13, 5203-5211.	4.5	270
52	Engineering the shape and structure of materials by fractal cut. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 17390-17395.	3.3	265
53	Large plasticity in magnesium mediated by pyramidal dislocations. <i>Science</i> , 2019, 365, 73-75.	6.0	264
54	Theoretical evaluation of hydrogen storage capacity in pure carbon nanostructures. <i>Journal of Chemical Physics</i> , 2003, 119, 2376-2385.	1.2	263

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55	Liquid-like pseudoelasticity of sub-10-nm crystalline silver particles. <i>Nature Materials</i> , 2014, 13, 1007-1012.	13.3	255
56	Slurryless Li <sub>2</sub> S/Reduced Graphene Oxide Cathode Paper for High-Performance Lithium Sulfur Battery. <i>Nano Letters</i> , 2015, 15, 1796-1802.	4.5	252
57	Gradient Li-rich oxide cathode particles immunized against oxygen release by a molten salt treatment. <i>Nature Energy</i> , 2019, 4, 1049-1058.	19.8	248
58	Atomistic modeling of finite-temperature properties of crystalline $\hat{1}^2$ -SiC. <i>Journal of Nuclear Materials</i> , 1998, 255, 139-152.	1.3	244
59	A Transforming Metal Nanocomposite with Large Elastic Strain, Low Modulus, and High Strength. <i>Science</i> , 2013, 339, 1191-1194.	6.0	241
60	Cytoskeletal dynamics of human erythrocyte. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 4937-4942.	3.3	234
61	In situ observation of graphene sublimation and multi-layer edge reconstructions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 10103-10108.	3.3	232
62	Yield point of metallic glass. <i>Acta Materialia</i> , 2006, 54, 4293-4298.	3.8	231
63	Nitrogen-Doped Carbon for Sodium-Ion Battery Anode by Self-Etching and Graphitization of Bimetallic MOF-Based Composite. <i>CheM</i> , 2017, 3, 152-163.	5.8	228
64	Predictive modeling of nanoindentation-induced homogeneous dislocation nucleation in copper. <i>Journal of the Mechanics and Physics of Solids</i> , 2004, 52, 691-724.	2.3	227
65	Piezoelectricity in two-dimensional group-III monochalcogenides. <i>Nano Research</i> , 2015, 8, 3796-3802.	5.8	219
66	The Nanostructured Origin of Deformation Twinning. <i>Nano Letters</i> , 2012, 12, 887-892.	4.5	218
67	Structure-property relationships from universal signatures of plasticity in disordered solids. <i>Science</i> , 2017, 358, 1033-1037.	6.0	218
68	Energy landscape of deformation twinning in bcc and fcc metals. <i>Physical Review B</i> , 2005, 71, .	1.1	215
69	Elastic strain engineering for unprecedented materials properties. <i>MRS Bulletin</i> , 2014, 39, 108-114.	1.7	214
70	Orientation-Dependent Interfacial Mobility Governs the Anisotropic Swelling in Lithiated Silicon Nanowires. <i>Nano Letters</i> , 2012, 12, 1953-1958.	4.5	212
71	Boosting photocatalytic hydrogen production from water by photothermally induced biphasic systems. <i>Nature Communications</i> , 2021, 12, 1343.	5.8	209
72	Phase transitions in 2D materials. <i>Nature Reviews Materials</i> , 2021, 6, 829-846.	23.3	205

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73	FSI-inspired solvent and "full fluorosulfonyl" electrolyte for 4 V class lithium-metal batteries. Energy and Environmental Science, 2020, 13, 212-220.	15.6	198
74	Parallel Stitching of 2D Materials. Advanced Materials, 2016, 28, 2322-2329.	11.1	195
75	Electrochemically-mediated selective capture of heavy metal chromium and arsenic oxyanions from water. Nature Communications, 2018, 9, 4701.	5.8	193
76	Atomistic Study of Dislocation Loop Emission from a Crack Tip. Physical Review Letters, 2004, 93, 025503.	2.9	192
77	Molecularly based analysis of deformation of spectrin network and human erythrocyte. Materials Science and Engineering C, 2006, 26, 1232-1244.	3.8	190
78	Periodic stacking of 2D charged sheets: Self-assembled superlattice of Ni"Al layered double hydroxide (LDH) and reduced graphene oxide. Nano Energy, 2016, 20, 185-193.	8.2	188
79	Periodic image effects in dislocation modelling. Philosophical Magazine, 2003, 83, 539-567.	0.7	185
80	Stress generation during lithiation of high-capacity electrode particles in lithium ion batteries. Acta Materialia, 2013, 61, 4354-4364.	3.8	183
81	Strain-Engineering of Band Gaps in Piezoelectric Boron Nitride Nanoribbons. Nano Letters, 2012, 12, 1224-1228.	4.5	181
82	Interactions between Lithium Growths and Nanoporous Ceramic Separators. Joule, 2018, 2, 2434-2449.	11.7	180
83	In-Plane Optical Anisotropy of Layered Gallium Telluride. ACS Nano, 2016, 10, 8964-8972.	7.3	179
84	Highly Active Pt <sub>3</sub> Pb and Core"Shell Pt <sub>3</sub> Pb"Pt Electrocatalysts for Formic Acid Oxidation. ACS Nano, 2012, 6, 2818-2825.	7.3	177
85	Lithium Manganese Spinel Cathodes for Lithium-ion Batteries. Advanced Energy Materials, 2021, 11, 2000997.	10.2	177
86	Electrical Percolation Behavior in Silver Nanowire"Polystyrene Composites: Simulation and Experiment. Advanced Functional Materials, 2010, 20, 2709-2716.	7.8	173
87	A high-performance sodium-ion battery enhanced by macadamia shell derived hard carbon anode. Nano Energy, 2017, 39, 489-498.	8.2	172
88	Anion-redox nanolithia cathodes for Li-ion batteries. Nature Energy, 2016, 1, .	19.8	171
89	Leapfrog Cracking and Nanoamorphization of ZnO Nanowires during In Situ Electrochemical Lithiation. Nano Letters, 2011, 11, 4535-4541.	4.5	169
90	Approaching the ideal elastic strain limit in silicon nanowires. Science Advances, 2016, 2, e1501382.	4.7	169

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91	Electrospinning-Based Strategies for Battery Materials. <i>Advanced Energy Materials</i> , 2021, 11, 2000845.	10.2	169
92	Origin of Two-Dimensional Vertical Ferroelectricity in $WTe_2$ Bilayer and Multilayer. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 7160-7164.	2.1	168
93	Interplay of Lithium Intercalation and Plating on a Single Graphite Particle. <i>Joule</i> , 2021, 5, 393-414.	11.7	168
94	Variable Nanoparticle-Cell Adhesion Strength Regulates Cellular Uptake. <i>Physical Review Letters</i> , 2010, 105, 138101.	2.9	166
95	Does p-type ohmic contact exist in $WSe_2$ -metal interfaces?. <i>Nanoscale</i> , 2016, 8, 1179-1191.	2.8	166
96	Emergence of strain-rate sensitivity in Cu nanopillars: Transition from dislocation multiplication to dislocation nucleation. <i>Acta Materialia</i> , 2011, 59, 5627-5637.	3.8	162
97	Electrical Wind Force-Driven and Dislocation-Templated Amorphization in Phase-Change Nanowires. <i>Science</i> , 2012, 336, 1561-1566.	6.0	162
98	Twinning-like lattice reorientation without a crystallographic twinning plane. <i>Nature Communications</i> , 2014, 5, 3297.	5.8	154
99	Conductive graphene oxide-polyacrylic acid (GOPAA) binder for lithium-sulfur battery. <i>Nano Energy</i> , 2017, 31, 568-574.	8.2	147
100	Roll-to-roll prelithiation of Sn foil anode suppresses gassing and enables stable full-cell cycling of lithium ion batteries. <i>Energy and Environmental Science</i> , 2019, 12, 2991-3000.	15.6	147
101	Poor Stability of $Li_2CO_3$ in the Solid Electrolyte Interphase of a Lithium-Metal Anode Revealed by Cryo-Electron Microscopy. <i>Advanced Materials</i> , 2021, 33, e2100404.	11.1	147
102	Fast Mass Transport Through Carbon Nanotube Membranes. <i>Small</i> , 2007, 3, 1996-2004.	5.2	146
103	Additive manufacturing for energy: A review. <i>Applied Energy</i> , 2021, 282, 116041.	5.1	146
104	The interaction of dislocations and hydrogen-vacancy complexes and its importance for deformation-induced proto nano-voids formation in $\alpha$ -Fe. <i>International Journal of Plasticity</i> , 2015, 74, 175-191.	4.1	144
105	Electrochemomechanical degradation of high-capacity battery electrode materials. <i>Progress in Materials Science</i> , 2017, 89, 479-521.	16.0	144
106	The Mechanics and Physics of Defect Nucleation. <i>MRS Bulletin</i> , 2007, 32, 151-159.	1.7	139
107	Coupling and Stacking Order of $ReS_2$ Atomic Layers Revealed by Ultralow-Frequency Raman Spectroscopy. <i>Nano Letters</i> , 2016, 16, 1404-1409.	4.5	139
108	Mechanism of Thermal Transport in Dilute Nanocolloids. <i>Physical Review Letters</i> , 2007, 98, 028302.	2.9	136

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109	In situ study of the initiation of hydrogen bubbles at the aluminium metal/oxide interface. <i>Nature Materials</i> , 2015, 14, 899-903.	13.3	134
110	Revitalizing interface in protonic ceramic cells by acid etch. <i>Nature</i> , 2022, 604, 479-485.	13.7	132
111	Hydrogenated vacancies lock dislocations in aluminium. <i>Nature Communications</i> , 2016, 7, 13341.	5.8	131
112	Computing the viscosity of supercooled liquids. <i>Journal of Chemical Physics</i> , 2009, 130, 224504.	1.2	128
113	Is graphite lithiophobic or lithiophilic?. <i>National Science Review</i> , 2020, 7, 1208-1217.	4.6	126
114	Ferroelasticity and domain physics in two-dimensional transition metal dichalcogenide monolayers. <i>Nature Communications</i> , 2016, 7, 10843.	5.8	125
115	Synthesis of High-Quality Large-Area Homogenous $1T'$ MoTe <sub>2</sub> from Chemical Vapor Deposition. <i>Advanced Materials</i> , 2016, 28, 9526-9531.	11.1	125
116	Atomistic simulation of shear localization in Cu-Zr bulk metallic glass. <i>Intermetallics</i> , 2006, 14, 1033-1037.	1.8	124
117	Mechanistic aspects and atomic-level consequences of elastic instabilities in homogeneous crystals. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2001, 317, 236-240.	2.6	123
118	Electrochemically driven mechanical energy harvesting. <i>Nature Communications</i> , 2016, 7, 10146.	5.8	123
119	Colloidal synthesis of $1T'$ phase dominated WS <sub>2</sub> towards enduring electrocatalysis. <i>Nano Energy</i> , 2018, 50, 176-181.	8.2	123
120	Lithiation-Induced Embrittlement of Multiwalled Carbon Nanotubes. <i>ACS Nano</i> , 2011, 5, 7245-7253.	7.3	122
121	Engineering Catalytic Contacts and Thermal Stability: Gold/Iron Oxide Binary Nanocrystal Superlattices for CO Oxidation. <i>Journal of the American Chemical Society</i> , 2013, 135, 1499-1505.	6.6	122
122	Toward a Safer Battery Management System: A Critical Review on Diagnosis and Prognosis of Battery Short Circuit. <i>IScience</i> , 2020, 23, 101010.	1.9	122
123	Dislocation Core Effects on Mobility. <i>Dislocations in Solids</i> , 2004, 12, 1-80.	1.6	120
124	Size-Dependent Brittle-to-Ductile Transition in Silica Glass Nanofibers. <i>Nano Letters</i> , 2016, 16, 105-113.	4.5	120
125	Coupling continuum to molecular-dynamics simulation: Reflecting particle method and the field estimator. <i>Physical Review E</i> , 1998, 57, 7259-7267.	0.8	119
126	In Situ Atomic-Scale Imaging of Phase Boundary Migration in FePO <sub>4</sub> Microparticles During Electrochemical Lithiation. <i>Advanced Materials</i> , 2013, 25, 5461-5466.	11.1	119



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127	Gradient-morph $\text{LiCoO}_2$ single crystals with stabilized energy density above $3400 \text{ Wh L}^{-1}$ . <i>Energy and Environmental Science</i> , 2020, 13, 1865-1878.	15.6	118
128	Lithium Plating Mechanism, Detection, and Mitigation in Lithium-Ion Batteries. <i>Progress in Energy and Combustion Science</i> , 2021, 87, 100953.	15.8	117
129	Atomistic modeling of mechanical behavior. <i>Acta Materialia</i> , 2003, 51, 5711-5742.	3.8	115
130	Unexpected High-Temperature Stability of $\text{Zn}_4\text{Sb}_3$ Opens the Door to Enhanced Thermoelectric Performance. <i>Journal of the American Chemical Society</i> , 2014, 136, 1497-1504.	6.6	115
131	Stress-dependent molecular pathways of silica-water reaction. <i>Journal of the Mechanics and Physics of Solids</i> , 2005, 53, 1597-1623.	2.3	114
132	Rippllocations in van der Waals Layers. <i>Nano Letters</i> , 2015, 15, 1302-1308.	4.5	114
133	Plasticity of a scandium-based nanoglass. <i>Scripta Materialia</i> , 2015, 98, 40-43.	2.6	114
134	Reducing deformation anisotropy to achieve ultrahigh strength and ductility in Mg at the nanoscale. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 13289-13293.	3.3	111
135	Sample size matters for $\text{Al}_{88}\text{Fe}_7\text{Gd}_5$ metallic glass: Smaller is stronger. <i>Acta Materialia</i> , 2012, 60, 5370-5379.	3.8	110
136	Controlled Rejuvenation of Amorphous Metals with Thermal Processing. <i>Scientific Reports</i> , 2015, 5, 10545.	1.6	110
137	$\text{Ti}^{3+}$ -free three-phase $\text{Li}_4\text{Ti}_5\text{O}_{12}/\text{TiO}_2$ for high-rate lithium ion batteries: Capacity and conductivity enhancement by phase boundaries. <i>Nano Energy</i> , 2017, 32, 294-301.	8.2	110
138	Lithium titanate hydrates with superfast and stable cycling in lithium ion batteries. <i>Nature Communications</i> , 2017, 8, 627.	5.8	110
139	A Surface Se-Substituted $\text{LiCo}[\text{O}_{2\hat{~}}]_{\hat{~}}\text{Se}[\text{O}_{\hat{~}}]_{\hat{~}}$ Cathode with Ultrastable High-Voltage Cycling in Pouch Full-Cells. <i>Advanced Materials</i> , 2020, 32, e2005182.	11.1	110
140	Multiple stiffening effects of nanoscale knobs on human red blood cells infected with <i>Plasmodium falciparum</i> malaria parasite. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 6068-6073.	3.3	108
141	Patterning of graphene. <i>Nanoscale</i> , 2012, 4, 4883.	2.8	107
142	Unveiling Nickel Chemistry in Stabilizing High-Voltage Cobalt-Rich Cathodes for Lithium-Ion Batteries. <i>Advanced Functional Materials</i> , 2020, 30, 1907903.	7.8	107
143	One-particle-thick, solvent-free, coarse-grained model for biological and biomimetic fluid membranes. <i>Physical Review E</i> , 2010, 82, 011905.	0.8	106
144	Quantitative Fracture Strength and Plasticity Measurements of Lithiated Silicon Nanowires by <i>In Situ</i> TEM Tensile Experiments. <i>ACS Nano</i> , 2012, 6, 9425-9432.	7.3	106

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145	Core energy and Peierls stress of a screw dislocation in bcc molybdenum: A periodic-cell tight-binding study. <i>Physical Review B</i> , 2004, 70, .	1.1	105
146	Mechanics of Ultra-Strength Materials. <i>MRS Bulletin</i> , 2009, 34, 167-172.	1.7	105
147	In Situ Observation of Random Solid Solution Zone in $\text{LiFePO}_4$ Electrode. <i>Nano Letters</i> , 2014, 14, 4005-4010.	4.5	104
148	Anisotropic Elastic Interactions of a Periodic Dislocation Array. <i>Physical Review Letters</i> , 2001, 86, 5727-5730.	2.9	102
149	Radiation-Induced Helium Nanobubbles Enhance Ductility in Submicron-Sized Single-Crystalline Copper. <i>Nano Letters</i> , 2016, 16, 4118-4124.	4.5	102
150	Extreme mixing in nanoscale transition metal alloys. <i>Matter</i> , 2021, 4, 2340-2353.	5.0	102
151	Ultra-large suspended graphene as a highly elastic membrane for capacitive pressure sensors. <i>Nanoscale</i> , 2016, 8, 3555-3564.	2.8	100
152	Gravimetric and volumetric energy densities of lithium-sulfur batteries. <i>Current Opinion in Electrochemistry</i> , 2017, 6, 92-99.	2.5	100
153	Superelasticity in bcc nanowires by a reversible twinning mechanism. <i>Physical Review B</i> , 2010, 82, .	1.1	99
154	In situ transmission electron microscopy of electrochemical lithiation, delithiation and deformation of individual graphene nanoribbons. <i>Carbon</i> , 2012, 50, 3836-3844.	5.4	98
155	Transitions from Near-Surface to Interior Redox upon Lithiation in Conversion Electrode Materials. <i>Nano Letters</i> , 2015, 15, 1437-1444.	4.5	97
156	Charging/Discharging Nanomorphology Asymmetry and Rate-Dependent Capacity Degradation in $\text{Li}^+$ Oxygen Battery. <i>Nano Letters</i> , 2015, 15, 8260-8265.	4.5	97
157	Nanowire liquid pumps. <i>Nature Nanotechnology</i> , 2013, 8, 277-281.	15.6	96
158	Nanovoid Formation and Annihilation in Gallium Nanodroplets under Lithiation–Delithiation Cycling. <i>Nano Letters</i> , 2013, 13, 5212-5217.	4.5	96
159	Achieving large uniform tensile elasticity in microfabricated diamond. <i>Science</i> , 2021, 371, 76-78.	6.0	95
160	The gap-tooth method in particle simulations. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2003, 316, 190-195.	0.9	94
161	Size effects on the onset of plastic deformation during nanoindentation of thin films and patterned lines. <i>Journal of Applied Physics</i> , 2003, 94, 6050-6058.	1.1	94
162	Theoretical assessment of the elastic constants and hydrogen storage capacity of some metal-organic framework materials. <i>Journal of Chemical Physics</i> , 2006, 125, 084714.	1.2	94

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163	A thin multifunctional coating on a separator improves the cyclability and safety of lithium sulfur batteries. <i>Chemical Science</i> , 2017, 8, 6619-6625.	3.7	94
164	Superior electrochemical performance of sodium-ion full-cell using poplar wood derived hard carbon anode. <i>Energy Storage Materials</i> , 2019, 18, 269-279.	9.5	94
165	Double-oxide sulfur host for advanced lithium-sulfur batteries. <i>Nano Energy</i> , 2017, 38, 12-18.	8.2	93
166	Organic Thiocarboxylate Electrodes for a Room-Temperature Sodium-Ion Battery Delivering an Ultrahigh Capacity. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 15334-15338.	7.2	91
167	Liquid-Like, Self-Healing Aluminum Oxide during Deformation at Room Temperature. <i>Nano Letters</i> , 2018, 18, 2492-2497.	4.5	91
168	Quasiatomic orbitals for <i>ab initio</i> tight-binding analysis. <i>Physical Review B</i> , 2008, 78, .	1.1	90
169	Atomistic modeling of finite-temperature properties of $\hat{I}^2$ -SiC. I. Lattice vibrations, heat capacity, and thermal expansion. <i>Journal of Nuclear Materials</i> , 1997, 246, 53-59.	1.3	89
170	Size dependence of rate-controlling deformation mechanisms in nanotwinned copper. <i>Scripta Materialia</i> , 2009, 60, 1062-1066.	2.6	88
171	Double-inverse grain size dependence of deformation twinning in nanocrystalline Cu. <i>Physical Review B</i> , 2010, 81, .	1.1	88
172	Origin of Size Dependency in Coherent-Twin-Propagation-Mediated Tensile Deformation of Noble Metal Nanowires. <i>Nano Letters</i> , 2013, 13, 5112-5116.	4.5	88
173	High temperature ferromagnetism in $\pi$ -conjugated two-dimensional metal-organic frameworks. <i>Chemical Science</i> , 2017, 8, 2859-2867.	3.7	86
174	Strain-engineered diffusive atomic switching in two-dimensional crystals. <i>Nature Communications</i> , 2016, 7, 11983.	5.8	85
175	A new regime for mechanical annealing and strong sample-size strengthening in body centred cubic molybdenum. <i>Nature Communications</i> , 2011, 2, 547.	5.8	84
176	Stabilizing electrode-electrolyte interfaces to realize high-voltage $\text{Li} \parallel \text{LiCoO}_2$ batteries by a sulfonamide-based electrolyte. <i>Energy and Environmental Science</i> , 2021, 14, 6030-6040.	15.6	84
177	Thermochemical and Mechanical Stabilities of the Oxide Scale of $\text{ZrB}_2 + \text{SiC}$ and Oxygen Transport Mechanisms. <i>Journal of the American Ceramic Society</i> , 2008, 91, 1475-1480.	1.9	83
178	Sliding ferroelectricity in 2D van der Waals materials: Related physics and future opportunities. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	83
179	<i>Ad hoc</i> solid electrolyte on acidized carbon nanotube paper improves cycle life of lithium-sulfur batteries. <i>Energy and Environmental Science</i> , 2017, 10, 2544-2551.	15.6	82
180	Protonic solid-state electrochemical synapse for physical neural networks. <i>Nature Communications</i> , 2020, 11, 3134.	5.8	82



#	ARTICLE	IF	CITATIONS
199	Deformation of the ultra-strong. <i>Nature</i> , 2008, 456, 716-717.	13.7	71
200	Shuffling-controlled versus strain-controlled deformation twinning: The case for HCP Mg twin nucleation. <i>International Journal of Plasticity</i> , 2016, 82, 32-43.	4.1	71
201	Dendrimer-Au Nanoparticle Network Covered Alumina Membrane for Ion Rectification and Enhanced Bioanalysis. <i>Nano Letters</i> , 2020, 20, 1846-1854.	4.5	71
202	Unifying two criteria of Born: Elastic instability and melting of homogeneous crystals. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1997, 240, 396-403.	1.2	70
203	Deep elastic strain engineering of bandgap through machine learning. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 4117-4122.	3.3	70
204	Charging sustainable batteries. <i>Nature Sustainability</i> , 2022, 5, 176-178.	11.5	70
205	Sample size effects on strength and deformation mechanism of Sc <sub>75</sub> Fe <sub>25</sub> nanoglass and metallic glass. <i>Scripta Materialia</i> , 2016, 116, 95-99.	2.6	69
206	Strong and ductile beta Ti-18Zr-13Mo alloy with multimodal twinning. <i>Materials Research Letters</i> , 2019, 7, 251-257.	4.1	69
207	Beyond the Maxwell limit: Thermal conduction in nanofluids with percolating fluid structures. <i>Physical Review E</i> , 2007, 76, 062501.	0.8	67
208	Diffusive molecular dynamics and its application to nanoindentation and sintering. <i>Physical Review B</i> , 2011, 84, .	1.1	67
209	Sample size effects on the large strain bursts in submicron aluminum pillars. <i>Applied Physics Letters</i> , 2012, 100, .	1.5	67
210	Adaptive strain-boost hyperdynamics simulations of stress-driven atomic processes. <i>Physical Review B</i> , 2010, 82, .	1.1	66
211	Ruddlesden-Popper perovskite sulfides A <sub>3</sub> B <sub>2</sub> S <sub>7</sub> : A new family of ferroelectric photovoltaic materials for the visible spectrum. <i>Nano Energy</i> , 2016, 22, 507-513.	8.2	66
212	A soft non-porous separator and its effectiveness in stabilizing Li metal anodes cycling at 10 mA cm <sup>-2</sup> observed in situ in a capillary cell. <i>Journal of Materials Chemistry A</i> , 2017, 5, 4300-4307.	5.2	66
213	Chestnut-like SnO <sub>2</sub> /C nanocomposites with enhanced lithium ion storage properties. <i>Nano Energy</i> , 2016, 30, 885-891.	8.2	64
214	Molecular dynamics study on the formation of stacking fault tetrahedra and unfauling of Frank loops in fcc metals. <i>Acta Materialia</i> , 2007, 55, 3073-3080.	3.8	63
215	High-Efficiency Mechanical Energy Storage and Retrieval Using Interfaces in Nanowires. <i>Nano Letters</i> , 2010, 10, 1774-1779.	4.5	63
216	Manipulating Sulfur Mobility Enables Advanced Li-S Batteries. <i>Matter</i> , 2019, 1, 1047-1060.	5.0	63

#	ARTICLE	IF	CITATIONS
217	Creep-Enabled 3D Solid-State Lithium-Metal Battery. <i>CheM</i> , 2020, 6, 2878-2892.	5.8	63
218	From "Smaller is Stronger" to "Size-Independent Strength Plateau": Towards Measuring the Ideal Strength of Iron. <i>Advanced Materials</i> , 2015, 27, 3385-3390.	11.1	62
219	Room temperature stable CO <sub>x</sub> -free H <sub>2</sub> production from methanol with magnesium oxide nanophotocatalysts. <i>Science Advances</i> , 2016, 2, e1501425.	4.7	62
220	Coverage dependence and hydroperoxyl-mediated pathway of catalytic water formation on Pt (111) surface. <i>Journal of Chemical Physics</i> , 2006, 125, 054701.	1.2	61
221	Real-time, high-resolution study of nanocrystallization and fatigue cracking in a cyclically strained metallic glass. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 19725-19730.	3.3	61
222	Enhanced electrochemical performance promoted by monolayer graphene and void space in silicon composite anode materials. <i>Nano Energy</i> , 2016, 27, 647-657.	8.2	61
223	Nanobubble Fragmentation and Bubble-Free-Channel Shear Localization in Helium-Irradiated Submicron-Sized Copper. <i>Physical Review Letters</i> , 2016, 117, 215501.	2.9	61
224	Engineering single-atom dynamics with electron irradiation. <i>Science Advances</i> , 2019, 5, eaav2252.	4.7	61
225	Battery degradation prediction against uncertain future conditions with recurrent neural network enabled deep learning. <i>Energy Storage Materials</i> , 2022, 50, 139-151.	9.5	61
226	Geometric and electronic structure of graphene bilayer edges. <i>Physical Review B</i> , 2009, 80, .	1.1	60
227	Directing the Deformation Paths of Soft Metamaterials with Prescribed Asymmetric Units. <i>Advanced Materials</i> , 2015, 27, 2747-2752.	11.1	60
228	In situ TEM study of deformation-induced crystalline-to-amorphous transition in silicon. <i>NPG Asia Materials</i> , 2016, 8, e291-e291.	3.8	60
229	Insight from in situ microscopy into which precipitate morphology can enable high strength in magnesium alloys. <i>Journal of Materials Science and Technology</i> , 2018, 34, 1061-1066.	5.6	60
230	Mechanism of hardening and damage initiation in oxygen embrittlement of body-centred-cubic niobium. <i>Acta Materialia</i> , 2019, 168, 331-342.	3.8	60
231	Ab initio study of the surface properties and ideal strength of (100) silicon thin films. <i>Physical Review B</i> , 2005, 72, .	1.1	59
232	Complete set of elastic constants of $\alpha$ -quartz at high pressure: A first-principles study. <i>Physical Review B</i> , 2007, 75, .	1.1	59
233	Direct Observation of Metal-Insulator Transition in Single-Crystalline Germanium Telluride Nanowire Memory Devices Prior to Amorphization. <i>Nano Letters</i> , 2014, 14, 2201-2209.	4.5	59
234	Modelling of stacked 2D materials and devices. <i>2D Materials</i> , 2015, 2, 032003.	2.0	59

#	ARTICLE	IF	CITATIONS
235	All-metallic Vertical Transistors Based on Stacked Dirac Materials. <i>Advanced Functional Materials</i> , 2015, 25, 68-77.	7.8	59
236	Supercritical CO <sub>2</sub> -Assisted SiO <sub>x</sub> /Carbon Multi-Layer Coating on Si Anode for Lithium-Ion Batteries. <i>Advanced Functional Materials</i> , 2021, 31, 2104135.	7.8	59
237	Atomistic Configurations and Energetics of Crack Extension in Silicon. <i>Physical Review Letters</i> , 2004, 93, 205504.	2.9	58
238	Modeling dislocation-diffusional coupled dislocation shearing of $\gamma'$ precipitates in Ni-base superalloys. <i>Acta Materialia</i> , 2011, 59, 3484-3497.	3.8	57
239	Visualizing size-dependent deformation mechanism transition in Sn. <i>Scientific Reports</i> , 2013, 3, 2113.	1.6	57
240	Fluorophosphates from Solid-State Synthesis and Electrochemical Ion Exchange: NaVPO <sub>4</sub> F or Na <sub>3</sub> V <sub>2</sub> (PO <sub>4</sub> ) <sub>2</sub> F <sub>3</sub> ?. <i>Advanced Energy Materials</i> , 2018, 8, 1801064.	10.2	57
241	Deep neural network battery life and voltage prediction by using data of one cycle only. <i>Applied Energy</i> , 2022, 306, 118134.	5.1	57
242	Topological crystalline insulator nanomembrane with strain-tunable band gap. <i>Nano Research</i> , 2015, 8, 967-979.	5.8	56
243	In situ TEM visualization of LiF nanosheet formation on the cathode-electrolyte interphase (CEI) in liquid-electrolyte lithium-ion batteries. <i>Matter</i> , 2022, 5, 1235-1250.	5.0	56
244	Tunable Exciton Funnel Using Moiré Superlattice in Twisted van der Waals Bilayer. <i>Nano Letters</i> , 2014, 14, 5350-5357.	4.5	55
245	Dispersion of carbon nanotubes in aluminum improves radiation resistance. <i>Nano Energy</i> , 2016, 22, 319-327.	8.2	55
246	Predicting structure and energy of dislocations and grain boundaries. <i>Acta Materialia</i> , 2014, 74, 125-131.	3.8	54
247	Radiation-resistant metal-organic framework enables efficient separation of krypton fission gas from spent nuclear fuel. <i>Nature Communications</i> , 2020, 11, 3103.	5.8	54
248	Computer Modeling Study of the Effect of Hydration on the Stability of a Silica Nanotube. <i>Nano Letters</i> , 2003, 3, 1347-1352.	4.5	53
249	Growth Conditions Control the Elastic and Electrical Properties of ZnO Nanowires. <i>Nano Letters</i> , 2015, 15, 7886-7892.	4.5	53
250	Enhanced thermoelectric properties of SnSe polycrystals via texture control. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 31821-31827.	1.3	53
251	Atomic-scale investigation of Lithiation/Delithiation mechanism in High-entropy spinel oxide with superior electrochemical performance. <i>Chemical Engineering Journal</i> , 2021, 420, 129838.	6.6	53
252	Elastic criterion for dislocation nucleation. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2004, 365, 25-30.	2.6	52

#	ARTICLE	IF	CITATIONS
253	Polaron-induced conformation change in single polypyrrole chain: An intrinsic actuation mechanism. <i>International Journal of Quantum Chemistry</i> , 2005, 102, 980-985.	1.0	52
254	A computational study of yttria-stabilized zirconia: II. Cation diffusion. <i>Acta Materialia</i> , 2017, 126, 438-450.	3.8	52
255	Sample-size-dependent surface dislocation nucleation in nanoscale crystals. <i>Acta Materialia</i> , 2018, 145, 19-29.	3.8	52
256	Uranium In Situ Electrolytic Deposition with a Reusable Functional Graphene-Foam Electrode. <i>Advanced Materials</i> , 2021, 33, e2102633.	11.1	52
257	Near Neutrality of an Oxygen Molecule Adsorbed on a Pt(111) Surface. <i>Physical Review Letters</i> , 2008, 101, 146101.	2.9	51
258	Pure spin photocurrent in non-centrosymmetric crystals: bulk spin photovoltaic effect. <i>Nature Communications</i> , 2021, 12, 4330.	5.8	51
259	Atomistic Simulations of Dislocations in Confined Volumes. <i>MRS Bulletin</i> , 2009, 34, 184-189.	1.7	50
260	Layer-Dependent Modulation of Tungsten Disulfide Photoluminescence by Lateral Electric Fields. <i>ACS Nano</i> , 2015, 9, 2740-2748.	7.3	50
261	Force-based many-body interatomic potential for ZrC. <i>Journal of Applied Physics</i> , 2003, 93, 9072-9085.	1.1	49
262	A Perspective on Modeling Materials in Extreme Environments: Oxidation of Ultrahigh-Temperature Ceramics. <i>MRS Bulletin</i> , 2006, 31, 410-418.	1.7	49
263	The Possibility of Chemically Inert, Graphene-Based All-Carbon Electronic Devices with 0.8 eV Gap. <i>ACS Nano</i> , 2011, 5, 3475-3482.	7.3	49
264	Lithium-Boron (Li-B) Monolayers: First-Principles Cluster Expansion and Possible Two-Dimensional Superconductivity. <i>ACS Applied Materials &amp; Interfaces</i> , 2016, 8, 2526-2532.	4.0	49
265	Low-Temperature Copper Bonding Strategy with Graphene Interlayer. <i>ACS Nano</i> , 2018, 12, 2395-2402.	7.3	49
266	Bimetallic Nanoparticle Oxidation in Three Dimensions by Chemically Sensitive Electron Tomography and <i>in Situ</i> Transmission Electron Microscopy. <i>ACS Nano</i> , 2018, 12, 7866-7874.	7.3	49
267	Pressureless two-step sintering of ultrafine-grained tungsten. <i>Acta Materialia</i> , 2020, 186, 116-123.	3.8	48
268	Effects of Elemental Modulation on Phase Purity and Electrochemical Properties of Co-free High-Entropy Spinel Oxide Anodes for Lithium-Ion Batteries. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	48
269	Dynamical thermal conductivity of argon crystal. <i>Journal of Applied Physics</i> , 2007, 102, 043514.	1.1	47
270	Nanoscratching of copper surface by CeO <sub>2</sub> . <i>Acta Materialia</i> , 2017, 124, 343-350.	3.8	47



#	ARTICLE	IF	CITATIONS
271	Periodic Wrinkleâ€Patterned Singleâ€Crystalline Ferroelectric Oxide Membranes with Enhanced Piezoelectricity. <i>Advanced Materials</i> , 2020, 32, e2004477.	11.1	47
272	Finding Critical Nucleus in Solid-State Transformations. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2008, 39, 976-983.	1.1	46
273	Ultrastretchable carbon nanotube composite electrodes for flexible lithium-ion batteries. <i>Nanoscale</i> , 2018, 10, 19972-19978.	2.8	46
274	Additive manufacturing of patterned 2D semiconductor through recyclable masked growth. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 3437-3442.	3.3	46
275	Low-Temperature Carbon Coating of Nanosized $\text{Li}_{1.015}\text{Al}_{0.06}\text{Mn}_{1.925}\text{O}_4$ and High-Density Electrode for High-Power Li-Ion Batteries. <i>Nano Letters</i> , 2017, 17, 3744-3751.	4.5	45
276	Computing the viscosity of supercooled liquids. II. Silica and strong-fragile crossover behavior. <i>Journal of Chemical Physics</i> , 2009, 131, 164505.	1.2	44
277	Sliding of coherent twin boundaries. <i>Nature Communications</i> , 2017, 8, 1108.	5.8	44
278	Healing of donor defect states in monolayer molybdenum disulfide using oxygen-incorporated chemical vapour deposition. <i>Nature Electronics</i> , 2022, 5, 28-36.	13.1	44
279	Near-surface lattice instability in 2D fiber and half-space. <i>Acta Materialia</i> , 2005, 53, 1215-1224.	3.8	43
280	Adaptive-boost molecular dynamics simulation of carbon diffusion in iron. <i>Physical Review B</i> , 2012, 85, .	1.1	43
281	IM3D: A parallel Monte Carlo code for efficient simulations of primary radiation displacements and damage in 3D geometry. <i>Scientific Reports</i> , 2015, 5, 18130.	1.6	43
282	Capacity extended bismuth-antimony cathode for high-performance liquid metal battery. <i>Journal of Power Sources</i> , 2018, 381, 38-45.	4.0	43
283	Niobium oxide dihalides $\text{NbOX}_2$ : a new family of two-dimensional van der Waals layered materials with intrinsic ferroelectricity and antiferroelectricity. <i>Nanoscale Horizons</i> , 2019, 4, 1113-1123.	4.1	43
284	Observation of strong higher-order lattice anharmonicity in Raman and infrared spectra. <i>Physical Review B</i> , 2020, 101, .	1.1	43
285	Designing artificial two-dimensional landscapes via atomic-layer substitution. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	43
286	Influence of nanoscale structural heterogeneity on shear banding in metallic glasses. <i>Acta Materialia</i> , 2017, 134, 104-115.	3.8	42
287	Machine learning in nuclear materials research. <i>Current Opinion in Solid State and Materials Science</i> , 2022, 26, 100975.	5.6	42
288	Highly localized quasiatomic minimal basis orbitals for Mo from ab initio calculations. <i>Physical Review B</i> , 2007, 76, .	1.1	41

#	ARTICLE	IF	CITATIONS
289	The intermediate temperature deformation of Ni-based superalloys: Importance of reordering. <i>Jom</i> , 2009, 61, 42-48.	0.9	41
290	Conetronics in 2D metal-organic frameworks: double/half Dirac cones and quantum anomalous Hall effect. <i>2D Materials</i> , 2017, 4, 015015.	2.0	41
291	Functional Group-Dependent Supercapacitive and Aging Properties of Activated Carbon Electrodes in Organic Electrolyte. <i>ACS Sustainable Chemistry and Engineering</i> , 2018, 6, 1208-1214.	3.2	41
292	Superconducting Cu/Nb nanolaminate by coded accumulative roll bonding and its helium damage characteristics. <i>Acta Materialia</i> , 2020, 197, 212-223.	3.8	41
293	Ultra-Uniform Nanocrystalline Materials via Two-Step Sintering. <i>Advanced Functional Materials</i> , 2021, 31, .	7.8	41
294	Intelligent disassembly of electric-vehicle batteries: a forward-looking overview. <i>Resources, Conservation and Recycling</i> , 2022, 182, 106207.	5.3	41
295	In situ imaging of layer-by-layer sublimation of suspended graphene. <i>Nano Research</i> , 2010, 3, 43-50.	5.8	40
296	Collective nature of plasticity in mediating phase transformation under shock compression. <i>Physical Review B</i> , 2014, 89, .	1.1	40
297	Cyclic deformation leads to defect healing and strengthening of small-volume metal crystals. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 13502-13507.	3.3	40
298	Semi-Flooded Sulfur Cathode with Ultralean Absorbed Electrolyte in Li-S Battery. <i>Advanced Science</i> , 2020, 7, 1903168.	5.6	40
299	Development of robust neural-network interatomic potential for molten salt. <i>Cell Reports Physical Science</i> , 2021, 2, 100359.	2.8	40
300	Ultralow Resistance Two-Stage Electrostatically Assisted Air Filtration by Polydopamine Coated PET Coarse Filter. <i>Small</i> , 2021, 17, e2102051.	5.2	40
301	Deciding the Nature of the Coarse Equation through Microscopic Simulations: The Baby-Bathwater Scheme. <i>SIAM Review</i> , 2007, 49, 469-487.	4.2	39
302	Strain-controlled thermal conductivity in ferroic twinned films. <i>Scientific Reports</i> , 2014, 4, 6375.	1.6	39
303	Effect of hydrogen on the integrity of aluminium-oxide interface at elevated temperatures. <i>Nature Communications</i> , 2017, 8, 14564.	5.8	39
304	Toughness scale from first principles. <i>Journal of Applied Physics</i> , 2009, 106, .	1.1	38
305	Opto-Mechanics Driven Fast Martensitic Transition in Two-Dimensional Materials. <i>Nano Letters</i> , 2018, 18, 7794-7800.	4.5	38
306	A Novel Moisture-Insensitive and Low-Corrosivity Ionic Liquid Electrolyte for Rechargeable Aluminum Batteries. <i>Advanced Functional Materials</i> , 2020, 30, 1909565.	7.8	38

#	ARTICLE	IF	CITATIONS
307	Thermal expansion and atomic vibrations of zirconium carbide to 1600 K. Philosophical Magazine, 2007, 87, 2507-2519.	0.7	37
308	Deviatoric Stress-Driven Fusion of Nanoparticle Superlattices. Nano Letters, 2014, 14, 4951-4958.	4.5	37
309	Sn Alloy Foil Electrode with Mechanical Prelithiation: Full Cell Performance up to 200 Cycles. Advanced Energy Materials, 2019, 9, 1902150.	10.2	37
310	Gassing in Sn-Anode Sodium-Ion Batteries and Its Remedy by Metallurgically Prealloying Na. ACS Applied Materials & Interfaces, 2019, 11, 23207-23212.	4.0	37
311	Deformation and Fracture of a SiO <sub>2</sub> Nanorod. Molecular Simulation, 2003, 29, 671-676.	0.9	36
312	Analysis of shear deformations in Al and Cu: empirical potentials versus density functional theory. Modelling and Simulation in Materials Science and Engineering, 2004, 12, 1017-1029.	0.8	36
313	Atomistic characterization of three-dimensional lattice trapping barriers to brittle fracture. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2006, 462, 1741-1761.	1.0	36
314	Time scale bridging in atomistic simulation of slow dynamics: viscous relaxation and defect activation. European Physical Journal B, 2011, 82, 271-293.	0.6	36
315	Optimal annealing of Al foil anode for prelithiation and full-cell cycling in Li-ion battery: The role of grain boundaries in lithiation/delithiation ductility. Nano Energy, 2020, 67, 104274.	8.2	36
316	Tension-compression asymmetry in amorphous silicon. Nature Materials, 2021, 20, 1371-1377.	13.3	36
317	Diffusive versus Displacive Contact Plasticity of Nanoscale Asperities: Temperature- and Velocity-Dependent Strongest Size. Nano Letters, 2015, 15, 6582-6585.	4.5	35
318	Hierarchical {332} <math>\langle 113 \rangle</math> twinning in a metastable $\beta^2$ Ti-alloy showing tolerance to strain localization. Materials Research Letters, 2020, 8, 247-253.	4.1	35
319	Nearly exact solution for coupled continuum/MD fluid simulation. Journal of Computer-Aided Materials Design, 1999, 6, 95-102.	0.7	34
320	A Water-Soluble NaCMC/NaPAA Binder for Exceptional Improvement of Sodium-Ion Batteries with an SnO <sub>2</sub> -Ordered Mesoporous Carbon Anode. ChemSusChem, 2018, 11, 3923-3931.	3.6	34
321	<i>In Situ</i> Scanning Transmission Electron Microscopy Observations of Fracture at the Atomic Scale. Physical Review Letters, 2020, 125, 246102.	2.9	34
322	Analysis of SteraMist ionized hydrogen peroxide technology in the sterilization of N95 respirators and other PPE. Scientific Reports, 2021, 11, 2051.	1.6	34
323	Self-Perpetuating Carbon Foam Microwave Plasma Conversion of Hydrocarbon Wastes into Useful Fuels and Chemicals. Environmental Science & Technology, 2021, 55, 6239-6247.	4.6	34
324	Undissociated screw dislocation in Si: Glide or shuffle set?. Applied Physics Letters, 2006, 89, 051910.	1.5	33

#	ARTICLE	IF	CITATIONS
325	In situ observations of the nucleation and growth of atomically sharp graphene bilayer edges. Carbon, 2010, 48, 2354-2360.	5.4	33
326	Pristine-to-pristine regime of plastic deformation in submicron-sized single crystal gold particles. Acta Materialia, 2012, 60, 1368-1377.	3.8	33
327	Ultrathin HfO <sub>2</sub> -modified carbon nanotube films as efficient polysulfide barriers for Li-S batteries. Carbon, 2018, 139, 896-905.	5.4	33
328	Nanocrystalline Li <sup>+</sup> Al <sup>+</sup> Mn <sup>+</sup> Si Foil as Reversible Li Host: Electronic Percolation and Electrochemical Cycling Stability. Nano Letters, 2020, 20, 896-904.	4.5	33
329	Carbon nanotubes and manganese oxide hybrid nanostructures as high performance fiber supercapacitors. Communications Chemistry, 2018, 1, .	2.0	32
330	Waterproof molecular monolayers stabilize 2D materials. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 20844-20849.	3.3	32
331	Hybrid electrolyte enables safe and practical 5 V LiNi <sub>0.5</sub> Mn <sub>1.5</sub> O <sub>4</sub> batteries. Journal of Materials Chemistry A, 2019, 7, 16516-16525.	5.2	32
332	Manipulation of Nitrogen-Heteroatom Configuration for Enhanced Charge-Storage Performance and Reliability of Nanoporous Carbon Electrodes. ACS Applied Materials & Interfaces, 2020, 12, 32797-32805.	4.0	32
333	Thermal Conductivity of Solid Argon by Classical Molecular Dynamics. Materials Research Society Symposia Proceedings, 1998, 538, 503.	0.1	31
334	Extended defects, ideal strength and actual strengths of finite-sized metallic glasses. Acta Materialia, 2014, 73, 149-166.	3.8	31
335	Brownian-snowball-mechanism-induced hierarchical cobalt sulfide for supercapacitors. Journal of Power Sources, 2019, 412, 321-330.	4.0	31
336	Porous Mixed Ionic Electronic Conductor Interlayers for Solid-State Batteries. Energy Material Advances, 2021, 2021, .	4.7	31
337	Determining the Criticality of Li <sup>+</sup> Excess for Disordered <sup>+</sup> Rocksalt Li <sup>+</sup> Ion Battery Cathodes. Advanced Energy Materials, 2021, 11, 2100204.	10.2	31
338	Organic Thiocarboxylate Electrodes for a Room <sup>+</sup> Temperature Sodium <sup>+</sup> Ion Battery Delivering an Ultrahigh Capacity. Angewandte Chemie, 2017, 129, 15536-15540.	1.6	31
339	Energetics of plastic bending of carbon nanotubes. Physical Review B, 2006, 74, .	1.1	30
340	Ton-scale metal <sup>+</sup> carbon nanotube composite: The mechanism of strengthening while retaining tensile ductility. Extreme Mechanics Letters, 2016, 8, 245-250.	2.0	30
341	Theoretical strength of 2D hexagonal crystals: application to bubble raft indentation. Philosophical Magazine, 2005, 85, 2177-2195.	0.7	29
342	Metallization of diamond. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 24634-24639.	3.3	29

#	ARTICLE	IF	CITATIONS
343	Origin of micrometer-scale dislocation motion during hydrogen desorption. <i>Science Advances</i> , 2020, 6, eaaz1187.	4.7	29
344	Dislocation slip or deformation twinning: confining pressure makes a difference. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2004, 387-389, 840-844.	2.6	28
345	Inverse martensitic transformation in Zr nanowires. <i>Physical Review B</i> , 2010, 81, .	1.1	28
346	Flow Stress in Submicron BCC Iron Single Crystals: Sample-size-dependent Strain-rate Sensitivity and Rate-dependent Size Strengthening. <i>Materials Research Letters</i> , 2015, 3, 121-127.	4.1	28
347	Diffusive origins. <i>Nature Materials</i> , 2015, 14, 656-657.	13.3	28
348	Uniaxial stress-driven coupled grain boundary motion in hexagonal close-packed metals: A molecular dynamics study. <i>Acta Materialia</i> , 2015, 82, 295-303.	3.8	28
349	Small-volume aluminum alloys with native oxide shell deliver unprecedented strength and toughness. <i>Acta Materialia</i> , 2017, 126, 202-209.	3.8	28
350	Two-Dimensional Silver(I)-Dithiocarboxylate Coordination Polymer Exhibiting Strong Near-Infrared Photothermal Effect. <i>Inorganic Chemistry</i> , 2019, 58, 6601-6608.	1.9	28
351	Rafting-Enabled Recovery Avoids Recrystallization in 3D-Printing-Repaired Single-Crystal Superalloys. <i>Advanced Materials</i> , 2020, 32, e1907164.	11.1	28
352	Surpassing lithium metal rechargeable batteries with self-supporting Li-Sn-Sb foil anode. <i>Nano Energy</i> , 2020, 74, 104815.	8.2	28
353	Layer number dependent ferroelasticity in 2D Ruddlesden-Popper organic-inorganic hybrid perovskites. <i>Nature Communications</i> , 2021, 12, 1332.	5.8	28
354	Computing the Viscosity of Supercooled Liquids: Markov Network Model. <i>PLoS ONE</i> , 2011, 6, e17909.	1.1	28
355	Charge-Discharge Mechanism of High-Entropy Co-Free Spinel Oxide Toward Li <sup>+</sup> Storage Examined Using Operando Quick-Scanning X-Ray Absorption Spectroscopy. <i>Advanced Science</i> , 2022, 9, .	5.6	28
356	Deformation-driven diffusion and plastic flow in amorphous granular pillars. <i>Physical Review E</i> , 2015, 91, 062212.	0.8	27
357	Making metals linear super-elastic with ultralow modulus and nearly zero hysteresis. <i>Materials Horizons</i> , 2019, 6, 515-523.	6.4	27
358	Slip transmission assisted by Shockley partials across $\langle 111 \rangle$ interfaces in Ti-alloys. <i>Acta Materialia</i> , 2019, 171, 291-305.	3.8	27
359	Full-Cell Cycling of a Self-Supporting Aluminum Foil Anode with a Phosphate Conversion Coating. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 15656-15661.	4.0	27
360	Colossal switchable photocurrents in topological Janus transition metal dichalcogenides. <i>Npj Computational Materials</i> , 2021, 7, .	3.5	27

#	ARTICLE	IF	CITATIONS
361	Deciding the Nature of the Coarse Equation through Microscopic Simulations: The Baby-Bathwater Scheme. <i>Multiscale Modeling and Simulation</i> , 2003, 1, 391-407.	0.6	26
362	Twinning pathway in BCC molybdenum. <i>Europhysics Letters</i> , 2004, 68, 405-411.	0.7	26
363	Hydrogen-Enhanced Vacancy Diffusion in Metals. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 7015-7020.	2.1	26
364	Dense All $\alpha$ -Electrochem $\alpha$ -Active Electrodes for All $\alpha$ -Solid $\alpha$ -State Lithium Batteries. <i>Advanced Materials</i> , 2021, 33, e2008723.	11.1	26
365	$\alpha$ -Conjugate Channeling $\alpha$ -Effect in Dislocation Core Diffusion: Carbon Transport in Dislocated BCC Iron. <i>PLoS ONE</i> , 2013, 8, e60586.	1.1	26
366	Rejuvenation of plasticity via deformation graining in magnesium. <i>Nature Communications</i> , 2022, 13, 1060.	5.8	26
367	Finding activation pathway of coupled displacive-diffusional defect processes in atomistics: Dislocation climb in fcc copper. <i>Physical Review B</i> , 2012, 86, .	1.1	25
368	Stress-driven crystallization via shear-diffusion transformations in a metallic glass at very low temperatures. <i>Physical Review B</i> , 2015, 91, .	1.1	25
369	A computational study of yttria-stabilized zirconia: I. Using crystal chemistry to search for the ground state on a glassy energy landscape. <i>Acta Materialia</i> , 2017, 127, 73-84.	3.8	25
370	Ion radiation albedo effect: influence of surface roughness on ion implantation and sputtering of materials. <i>Nuclear Fusion</i> , 2017, 57, 016038.	1.6	25
371	Designing solid solution hardening to retain uniform ductility while quadrupling yield strength. <i>Acta Materialia</i> , 2019, 179, 107-118.	3.8	25
372	Lithium metal electrode protected by stiff and tough self-compacting separator. <i>Nano Energy</i> , 2020, 69, 104399.	8.2	25
373	Metal $\alpha$ -Organic Framework $\alpha$ -Polyacrylonitrile Composite Beads for Xenon Capture. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 45342-45350.	4.0	25
374	Assessment of the Qualitative Fit Test and Quantitative Single-Pass Filtration Efficiency of Disposable N95 Masks Following Gamma Irradiation. <i>JAMA Network Open</i> , 2020, 3, e209961.	2.8	25
375	Achieving 5.9% elastic strain in kilograms of metallic glasses: Nanoscopic strain engineering goes macro. <i>Materials Today</i> , 2020, 37, 18-26.	8.3	25
376	Terahertz Driven Reversible Topological Phase Transition of Monolayer Transition Metal Dichalcogenides. <i>Advanced Science</i> , 2021, 8, e2003832.	5.6	25
377	CMOS-Compatible Protonic Programmable Resistor Based on Phosphosilicate Glass Electrolyte for Analog Deep Learning. <i>Nano Letters</i> , 2021, 21, 6111-6116.	4.5	25
378	Adsorbate interactions on surface lead to a flattened Sabatier volcano plot in reduction of oxygen. <i>Journal of Catalysis</i> , 2012, 295, 59-69.	3.1	24

#	ARTICLE	IF	CITATIONS
379	Topological semimetal to insulator quantum phase transition in the Zintl compounds Physical Review B, 2016, 94, ...	1.1	24
380	Helium Nanobubbles Enhance Superelasticity and Retard Shear Localization in Small-Volume Shape Memory Alloy. Nano Letters, 2017, 17, 3725-3730.	4.5	24
381	Hydrothermal synthesis of SnQ (Q = Te, Se, S) and their thermoelectric properties. Nanotechnology, 2017, 28, 455707.	1.3	24
382	SnSe+Ag <sub>2</sub> Se composite engineering with ball milling for enhanced thermoelectric performance. Rare Metals, 2018, 37, 333-342.	3.6	24
383	Basic Molecular Dynamics. , 2005, , 565-588.		24
384	Hydrostatic compression and high-pressure elastic constants of coesite silica. Journal of Applied Physics, 2008, 103, 053506.	1.1	23
385	A nanoporous oxide interlayer makes a better Pt catalyst on a metallic substrate: Nanoflowers on a nanotube bed. Nano Research, 2014, 7, 1007-1017.	5.8	23
386	TiO <sub>2</sub> -Nanocoated Black Phosphorus Electrodes with Improved Electrochemical Performance. ACS Applied Materials & Interfaces, 2018, 10, 36058-36066.	4.0	23
387	Carbon nanotube (CNT) metal composites exhibit greatly reduced radiation damage. Acta Materialia, 2021, 203, 116483.	3.8	23
388	Crack-tip dislocation nanostructures in dynamical fracture of fcc metals: A molecular dynamics study. Journal of Computer-Aided Materials Design, 2003, 10, 143-154.	0.7	22
389	Atomically sharp interlayer stacking shifts at anti-phase grain boundaries in overlapping MoS <sub>2</sub> secondary layers. Nanoscale, 2018, 10, 16692-16702.	2.8	22
390	Modeling LiF and FLiBe Molten Salts with Robust Neural Network Interatomic Potential. ACS Applied Materials & Interfaces, 2021, 13, 24582-24592.	4.0	22
391	Controlling Bending and Twisting of Conjugated Polymers via Solitons. Physical Review Letters, 2005, 95, 198303.	2.9	21
392	Multiple self-localized electronic states in trans-polyacetylene. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 8943-8946.	3.3	21
393	Plastic bending and shape-memory effect of double-wall carbon nanotubes. Physical Review B, 2007, 76, .	1.1	21
394	Strongly correlated breeding of high-speed dislocations. Acta Materialia, 2016, 119, 229-241.	3.8	21
395	Retaining Large and Adjustable Elastic Strains of Kilogram-Scale Nb Nanowires. ACS Applied Materials & Interfaces, 2016, 8, 2917-2922.	4.0	21
396	Low-temperature synthesized Li <sub>4</sub> Mn <sub>5</sub> O <sub>12</sub> -like cathode with hybrid cation- and anion-redox capacities. Chemical Communications, 2019, 55, 8118-8121.	2.2	21

#	ARTICLE	IF	CITATIONS
397	Composition manipulation of bis(fluorosulfonyl)imide-based ionic liquid electrolyte for high-voltage graphite//LiNi <sub>0.5</sub> Mn <sub>1.5</sub> O <sub>4</sub> lithium-ion batteries. <i>Chemical Engineering Journal</i> , 2021, 415, 128904.	6.6	21
398	TeaNet: Universal neural network interatomic potential inspired by iterative electronic relaxations. <i>Computational Materials Science</i> , 2022, 207, 111280.	1.4	21
399	Ionomigration of Neutral Phases in Ionic Conductors. <i>Advanced Energy Materials</i> , 2012, 2, 1383-1389.	10.2	20
400	Intragranular Dispersion of Carbon Nanotubes Comprehensively Improves Aluminum Alloys. <i>Advanced Science</i> , 2018, 5, 1800115.	5.6	20
401	Three-dimensional carbon framework anode improves sodiation-desodiation properties in ionic liquid electrolyte. <i>Nano Energy</i> , 2018, 49, 515-522.	8.2	20
402	Optomechanical control of stacking patterns of h-BN bilayer. <i>Nano Research</i> , 2019, 12, 2634-2639.	5.8	20
403	Reusable Polyacrylonitrile-Sulfur Extractor of Heavy Metal Ions from Wastewater. <i>Advanced Functional Materials</i> , 2021, 31, 2105845.	7.8	20
404	Beating 1 Sievert: Optimal Radiation Shielding of Astronauts on a Mission to Mars. <i>Space Weather</i> , 2021, 19, e2021SW002749.	1.3	20
405	Cryo-Electron Tomography of Highly Deformable and Adherent Solid-Electrolyte Interphase Exoskeleton in Li-Metal Batteries with Ether-Based Electrolyte. <i>Advanced Materials</i> , 2022, 34, e2108252.	11.1	20
406	Transverse and Longitudinal Degradations in Ceramic Solid Electrolytes. <i>Chemistry of Materials</i> , 2022, 34, 5749-5765.	3.2	20
407	Lattice dynamical finite-element method. <i>Acta Materialia</i> , 2010, 58, 510-523.	3.8	19
408	Phase Diagrams for Multi-Component Membrane Vesicles: A Coarse-Grained Modeling Study. <i>Langmuir</i> , 2010, 26, 12659-12666.	1.6	19
409	Near-infrared optical properties and proposed phase-change usefulness of transition metal disulfides. <i>Applied Physics Letters</i> , 2019, 115, .	1.5	19
410	Giant Photonic Response of Mexican-Hat Topological Semiconductors for Mid-infrared to Terahertz Applications. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 6119-6126.	2.1	18
411	Normal-to-topological insulator martensitic phase transition in group-IV monochalcogenides driven by light. <i>NPG Asia Materials</i> , 2020, 12, .	3.8	18
412	The impact of hydrogen valence on its bonding and transport in molten fluoride salts. <i>Journal of Materials Chemistry A</i> , 2021, 9, 1784-1794.	5.2	18
413	Towards pressureless sintering of nanocrystalline tungsten. <i>Acta Materialia</i> , 2021, 220, 117344.	3.8	18
414	Revealing the Brønsted-Evans-Polanyi relation in halide-activated fast MoS <sub>2</sub> growth toward millimeter-sized 2D crystals. <i>Science Advances</i> , 2021, 7, eabj3274.	4.7	18



#	ARTICLE	IF	CITATIONS
415	Machine learning for deep elastic strain engineering of semiconductor electronic band structure and effective mass. <i>Npj Computational Materials</i> , 2021, 7, .	3.5	17
416	Air-Stable Li <sub>x</sub> Al Foil as Free-Standing Electrode with Improved Electrochemical Ductility by Shot-Peening Treatment. <i>Advanced Functional Materials</i> , 2021, 31, 2100978.	7.8	17
417	3D-Printing Damage-Tolerant Architected Metallic Materials with Shape Recoverability via Special Deformation Design of Constituent Material. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 39915-39924.	4.0	17
418	Electrochemically Engineered, Highly Energy-Efficient Conversion of Ethane to Ethylene and Hydrogen below 550 Å°C in a Protonic Ceramic Electrochemical Cell. <i>ACS Catalysis</i> , 2021, 11, 12194-12202.	5.5	17
419	Order-Nmethod to calculate the local density of states. <i>Physical Review B</i> , 1997, 56, 3524-3527.	1.1	16
420	Atomic Scale Chemo-mechanics of Silica: Nano-rod Deformation and Water Reaction. <i>Journal of Computer-Aided Materials Design</i> , 2006, 13, 135-159.	0.7	16
421	Calculating phase-coherent quantum transport in nanoelectronics withab initioquasiatomic orbital basis set. <i>Physical Review B</i> , 2010, 82, .	1.1	16
422	Direct observation of hierarchical nucleation of martensite and size-dependent superelasticity in shape memory alloys. <i>Nanoscale</i> , 2014, 6, 2067.	2.8	16
423	Controlled growth of single-crystalline metal nanowires via thermomigration across a nanoscale junction. <i>Nature Communications</i> , 2019, 10, 4478.	5.8	16
424	Focused-helium-ion-beam blow forming of nanostructures: radiation damage and nanofabrication. <i>Nanotechnology</i> , 2020, 31, 045302.	1.3	16
425	Assessing the filtration efficiency and regulatory status of N95s and nontraditional filtering face-piece respirators available during the COVID-19 pandemic. <i>BMC Infectious Diseases</i> , 2021, 21, 712.	1.3	16
426	Acid-ina Clay Electrolyte for Wide-Temperature-Range and Long-Cycle Proton Batteries. <i>Advanced Materials</i> , 2022, 34, e2202063.	11.1	16
427	An Unbalanced Battle in Excellence: Revealing Effect of Ni/Co Occupancy on Water Splitting and Oxygen Reduction Reactions in Triple-Conducting Oxides for Protonic Ceramic Electrochemical Cells. <i>Small</i> , 2022, 18, .	5.2	16
428	Imposing Field Boundary Conditions in MD Simulation of Fluids: Optimal Particle Controller and Buffer Zone Feedback. <i>Materials Research Society Symposia Proceedings</i> , 1998, 538, 473.	0.1	15
429	Atomistic simulation of the influence of pressure on dislocation nucleation in bcc Mo. <i>Computational Materials Science</i> , 2006, 36, 60-64.	1.4	15
430	Ultrafast shape change and joining of small-volume materials using nanoscale electrical discharge. <i>Nano Research</i> , 2015, 8, 2143-2151.	5.8	15
431	Effect of twin boundaries and structural polytypes on electron transport in GaAs. <i>Computational Materials Science</i> , 2015, 108, 258-263.	1.4	15
432	Chemical and structural origin of hole states in yttria-stabilized zirconia. <i>Acta Materialia</i> , 2021, 203, 116487.	3.8	15

#	ARTICLE	IF	CITATIONS
433	Anodic Shock-Triggered Exsolution of Metal Nanoparticles from Perovskite Oxide. <i>Journal of the American Chemical Society</i> , 2022, 144, 7657-7666.	6.6	15
434	Transformation strain by chemical disordering in silicon carbide. <i>Journal of Applied Physics</i> , 2004, 95, 6466-6469.	1.1	14
435	Shear responses of $[ar\{1\},1,0]_{\text{-tilt}}^{\{1\}\{1\}\{5\}}$ asymmetric tilt grain boundaries in fcc metals by atomistic simulations. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2013, 21, 055013.	0.8	14
436	Inelastic x-ray scattering measurements of phonon dispersion and lifetimes in $\text{PbTe}_{1-x}\text{Se}_x$ alloys. <i>Journal of Physics Condensed Matter</i> , 2015, 27, 375403.	0.7	14
437	Nano-beam and nano-target effects in ion radiation. <i>Nanoscale</i> , 2018, 10, 1598-1606.	2.8	14
438	Electrostatic Air Filtration by Multifunctional Dielectric Heterocaking Filters with Ultralow Pressure Drop. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 29383-29392.	4.0	14
439	Complex Structure of Molten $\text{NaCl-CrCl}_3$ Salt: $\text{Cr-Cl}$ Octahedral Network and Intermediate-Range Order. <i>ACS Applied Energy Materials</i> , 2021, 4, 3044-3056.	2.5	14
440	Hollow-grained $\epsilon$ -Voronoi foam ceramics with high strength and thermal superinsulation up to $1400^\circ\text{C}$ . <i>Materials Today</i> , 2021, 46, 35-43.	8.3	14
441	Enhanced mobility of cations and anions in the redox state: The polaronium mechanism. <i>Acta Materialia</i> , 2022, 232, 117941.	3.8	14
442	Effect of nonlinear and noncollinear transformation strain pathways in phase-field modeling of nucleation and growth during martensite transformation. <i>Npj Computational Materials</i> , 2017, 3, .	3.5	13
443	Coarse-grained reduced $\text{Mo Ti}_x\text{Nb}_2\text{O}_7$ anodes for high-rate lithium-ion batteries. <i>Energy Storage Materials</i> , 2021, 34, 574-581.	9.5	13
444	Pressureless two-step sintering of ultrafine-grained refractory metals: Tungsten-rhenium and molybdenum. <i>Journal of Materials Science and Technology</i> , 2022, 126, 203-214.	5.6	13
445	Slip corona surrounding bilayer graphene nanopore. <i>Nanoscale</i> , 2012, 4, 5989.	2.8	12
446	Scalable synthesis of a sulfur nanosponge cathode for a lithium-sulfur battery with improved cyclability. <i>Journal of Materials Chemistry A</i> , 2014, 2, 19788-19796.	5.2	12
447	Anisotropic mechanical properties and strengthening mechanism in superaligned carbon nanotubes-reinforced aluminum. <i>Carbon</i> , 2019, 153, 513-524.	5.4	12
448	Colloidal quasi-one-dimensional dual semiconductor core/shell nanorod couple heterostructures with blue fluorescence. <i>Nanoscale</i> , 2019, 11, 10190-10197.	2.8	12
449	Kinetic Rejuvenation of Li-Rich Li-Ion Battery Cathodes upon Oxygen Redox. <i>ACS Applied Energy Materials</i> , 2020, 3, 7931-7943.	2.5	12
450	Ultrastrong adhesion of fluorinated graphene on a substrate: In situ electrochemical conversion to ionic-covalent bonding at the interface. <i>Carbon</i> , 2020, 169, 248-257.	5.4	12

#	ARTICLE	IF	CITATIONS
451	Molar-volume asymmetry enabled low-frequency mechanical energy harvesting in electrochemical cells. <i>Applied Energy</i> , 2020, 273, 115230.	5.1	12
452	Ultralong one-dimensional plastic zone created in aluminum underneath a nanoscale indent. <i>Acta Materialia</i> , 2022, 232, 117944.	3.8	12
453	Metal-nanotube composites as radiation resistant materials. <i>Applied Physics Letters</i> , 2016, 109, .	1.5	11
454	Deformation mechanism maps for sub-micron sized aluminum. <i>Acta Materialia</i> , 2020, 188, 570-578.	3.8	11
455	Light-induced static magnetization: Nonlinear Edelstein effect. <i>Physical Review B</i> , 2021, 103, .	1.1	11
456	Light-Induced Quantum Anomalous Hall Effect on the 2D Surfaces of 3D Topological Insulators. <i>Advanced Science</i> , 2021, 8, e2101508.	5.6	11
457	Pressure-temperature phase diagram for shapes of vesicles: A coarse-grained molecular dynamics study. <i>Applied Physics Letters</i> , 2009, 95, 143104.	1.5	10
458	An index for deformation controllability of small-volume materials. <i>Science China Technological Sciences</i> , 2014, 57, 663-670.	2.0	10
459	Caution Is Needed in Operating and Managing the Waste of New Pebble-Bed Nuclear Reactors. <i>Joule</i> , 2018, 2, 1911-1914.	11.7	10
460	Dynamic Fluid-Like Graphene with Ultralow Frictional Molecular Bearing. <i>Advanced Materials</i> , 2019, 31, e1903195.	11.1	10
461	A low-cost intermediate temperature Fe/Graphite battery for grid-scale energy storage. <i>Energy Storage Materials</i> , 2020, 25, 801-810.	9.5	10
462	Hybrid diffusive-displacive helium outgassing in Cu/Nb multilayer composites. <i>Scripta Materialia</i> , 2021, 194, 113706.	2.6	10
463	Achieving room-temperature M2-phase VO <sub>2</sub> nanowires for superior thermal actuation. <i>Nano Research</i> , 2021, 14, 4146-4153.	5.8	10
464	High-voltage lithium-metal battery with three-dimensional mesoporous carbon anode host and ether/carbonate binary electrolyte. <i>Carbon</i> , 2021, 184, 752-763.	5.4	10
465	Electrospinning Techniques: Electrospinning-Based Strategies for Battery Materials ( <i>Adv. Energy</i> ) Tj ETQq1 1 0.784314 rgBT /Overlock	10.2	10
466	Evidence of fifth- and higher-order phonon scattering entropy of zone-center optical phonons. <i>Physical Review B</i> , 2022, 105, .	1.1	10
467	Generalized Wilson loop method for nonlinear light-matter interaction. <i>Npj Quantum Materials</i> , 2022, 7, .	1.8	10
468	Atomistic simulation of matter under stress: crossover from hard to soft materials. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2002, 304, 11-22.	1.2	9

#	ARTICLE	IF	CITATIONS
469	Tight-binding Hamiltonian from first-principles calculations. <i>Scientific Modeling and Simulation SMNS</i> , 2008, 15, 81-95.	0.8	9
470	Study of architectural responses of 3D periodic cellular materials. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2013, 21, 065018.	0.8	9
471	Non-conservative dynamics of lattice sites near a migrating interface in a diffusional phase transformation. <i>Acta Materialia</i> , 2017, 127, 481-490.	3.8	9
472	Reduced expansion and improved full-cell cycling of a SnO <sub>x</sub> /C embedded structure for lithium-ion batteries. <i>Journal of Materials Chemistry A</i> , 2018, 6, 15738-15746.	5.2	9
473	The role of chemical disorder and structural freedom in radiation-induced amorphization of silicon carbide deduced from electron spectroscopy and ab initio simulations. <i>Journal of Nuclear Materials</i> , 2019, 514, 299-310.	1.3	9
474	Graphene-coated tungsten nanowires deliver unprecedented modulus and strength. <i>Materials Research Letters</i> , 2019, 7, 47-52.	4.1	9
475	Atomistic Visualization. , 2005, , 1051-1068.		9
476	Atomistic simulation of rapid compression of fractured silicon carbide. <i>Journal of Nuclear Materials</i> , 2006, 352, 22-28.	1.3	8
477	A metamaterial with memory. <i>Nature Nanotechnology</i> , 2012, 7, 773-774.	15.6	8
478	Crystal metamorphosis at stress extremes: how soft phonons turn into lattice defects. <i>NPG Asia Materials</i> , 2016, 8, e320-e320.	3.8	8
479	An ethyl methyl sulfone co-solvent eliminates macroscopic morphological instabilities of lithium metal anode. <i>Chemical Communications</i> , 2019, 55, 3387-3389.	2.2	8
480	Sacrificial Poly(propylene carbonate) Membrane for Dispersing Nanoparticles and Preparing Artificial Solid Electrolyte Interphase on Li Metal Anode. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 27087-27094.	4.0	8
481	A Robust Flow-Through Platform for Organic Contaminant Removal. <i>Cell Reports Physical Science</i> , 2021, 2, 100296.	2.8	8
482	Spectral Method for Thermal Conductivity Calculations. <i>Journal of Computer-Aided Materials Design</i> , 2006, 12, 141-159.	0.7	7
483	Accelerating ferroic ageing dynamics upon cooling. <i>NPG Asia Materials</i> , 2016, 8, e319-e319.	3.8	7
484	Monte Carlo simulation of PKA distribution along nanowires under ion radiation. <i>Nuclear Engineering and Design</i> , 2018, 340, 300-307.	0.8	7
485	Sample spinning to mitigate polarization artifact and interstitial-vacancy imbalance in ion-beam irradiation. <i>Npj Computational Materials</i> , 2020, 6, .	3.5	7
486	Effects of recoil spectra and electronic energy dissipation on defect survival in 3C-SiC. <i>Materialia</i> , 2021, 15, 101023.	1.3	7

#	ARTICLE	IF	CITATIONS
487	Statistical field estimators for multiscale simulations. <i>Physical Review E</i> , 2005, 72, 056712.	0.8	6
488	In situ study of the mechanical properties of airborne haze particles. <i>Science China Technological Sciences</i> , 2015, 58, 2046-2051.	2.0	6
489	Surface Rebound of Relativistic Dislocations Directly and Efficiently Initiates Deformation Twinning. <i>Physical Review Letters</i> , 2016, 117, 165501.	2.9	6
490	<i>Molecular Dynamics</i> . , 2020, , 573-594.		6
491	Machine learning of metal-ceramic wettability. <i>Journal of Materiomics</i> , 2022, 8, 195-203.	2.8	6
492	Thermally Aged Li <sup>+</sup> Mn <sup>2+</sup> O Cathode with Stabilized Hybrid Cation and Anion Redox. <i>Nano Letters</i> , 2021, 21, 4176-4184.	4.5	6
493	Synthesizing Functional Ceramic Powders for Solid Oxide Cells in Minutes through Thermal Shock. <i>ACS Energy Letters</i> , 2022, 7, 1223-1229.	8.8	6
494	Abnormal nonlinear optical responses on the surface of topological materials. <i>Npj Computational Materials</i> , 2022, 8, .	3.5	6
495	Response to "Comment on "Theoretical evaluation of hydrogen storage capacity in pure carbon nanostructures" [J. Chem. Phys. 120, 9427 (2003)]. <i>Journal of Chemical Physics</i> , 2004, 120, 9430-9432.	1.2	5
496	Mechanics of electrochemically driven mechanical energy harvesting. <i>Extreme Mechanics Letters</i> , 2017, 15, 78-82.	2.0	5
497	EML webinar overview: Elastic Strain Engineering for unprecedented properties. <i>Extreme Mechanics Letters</i> , 2022, 54, 101430.	2.0	5
498	A new approach of using Lorentz force to study single-asperity friction inside TEM. <i>Journal of Materials Science and Technology</i> , 2021, 84, 43-48.	5.6	5
499	Reusable Polyacrylonitrile-Sulfur Extractor of Heavy Metal Ions from Wastewater ( <i>Adv. Funct. Mater.</i> ) Tj ETQq1 1 0,784314 JgBT /Ov 7,8	7.8	5
500	Atomistic simulation studies of complex carbon and silicon systems using environment-dependent tight-binding potentials. <i>Scientific Modeling and Simulation SMNS</i> , 2008, 15, 97-121.	0.8	4
501	First-principles investigation of monatomic gold wires under tension. <i>Computational Materials Science</i> , 2020, 171, 109226.	1.4	4
502	Electrochemically stable lithium-ion and electron insulators (LEIs) for solid-state batteries. <i>Nano Research</i> , 2022, 15, 1213-1220.	5.8	4
503	Ab Initio Study of Ideal Shear Strength. <i>Solid Mechanics and Its Applications</i> , 2004, , 401-410.	0.1	4
504	Dislocation-Mediated Hydride Precipitation in Zirconium. <i>Small</i> , 2022, 18, e2105881.	5.2	4

#	ARTICLE	IF	CITATIONS
505	Nanomechanics of Crack Front Mobility. Journal of Applied Mechanics, Transactions ASME, 2005, 72, 932-935.	1.1	3
506	Multiscale Materials Modelling: Case Studies at the Atomistic and Electronic Structure Levels. ESAIM: Mathematical Modelling and Numerical Analysis, 2007, 41, 427-445.	0.8	3
507	Theoretical study of the ammonia nitridation rate on an Fe (100) surface: A combined density functional theory and kinetic Monte Carlo study. Journal of Chemical Physics, 2014, 141, 134108.	1.2	3
508	De Novo Powered Air-Purifying Respirator Design and Fabrication for Pandemic Response. Frontiers in Bioengineering and Biotechnology, 2021, 9, 690905.	2.0	3
509	Efficient polysulfide trapping in lithium-sulfur batteries using ultrathin and flexible BaTiO <sub>3</sub> /graphene oxide/carbon nanotube layers. Nanoscale, 2021, 13, 6863-6870.	2.8	3
510	Nonlinear nonreciprocal photocurrents under phonon dressing. Physical Review B, 2022, 106, .	1.1	3
511	Breaking Atomic Bonds through Vibrational Mode Localization. Defect and Diffusion Forum, 2004, 233-234, 49-60.	0.4	2
512	Encoding electronic structure information in potentials for multi-scale simulations: SiO <sub>2</sub> . Computational Materials Science, 2006, 38, 340-349.	1.4	2
513	Breakup of spherical vesicles caused by spontaneous curvature change. Acta Mechanica Sinica/Lixue Xuebao, 2012, 28, 1545-1550.	1.5	2
514	More Efficient and Accurate Simulations of Primary Radiation Damage in Materials with Nanosized Microstructural Features or Ion Beams. , 2020, , 2381-2412.		2
515	Learning constitutive relations of plasticity using neural networks and full-field data. Extreme Mechanics Letters, 2022, 52, 101645.	2.0	2
516	Cryo-Transmission Electron Tomography of Highly Deformable and Adherent Solid-Electrolyte Interphase Exoskeleton in Li-Metal Batteries with Ether-Based Electrolyte (Adv. Mater. 13/2022). Advanced Materials, 2022, 34, .	11.1	2
517	Simulation of nanoindentation via interatomic potential finite element method. , 2003, , 795-799.		1
518	Envelope function method for electrons in slowly-varying inhomogeneously deformed crystals. Journal of Physics Condensed Matter, 2014, 26, 455801.	0.7	1
519	Revealing the Bonding of Nitrogen Impurities in Monolayer Graphene. Microscopy and Microanalysis, 2017, 23, 1750-1751.	0.2	1
520	Batteries: Sn-Alloy Foil Electrode with Mechanical Prelithiation: Full-Cell Performance up to 200 Cycles (Adv. Energy Mater. 42/2019). Advanced Energy Materials, 2019, 9, 1970165.	10.2	1
521	More Efficient and Accurate Simulations of Primary Radiation Damage in Materials with Nanosized Microstructural Features or Ion Beams. , 2019, , 1-33.		1
522	Ultralow Resistance Two-Stage Electrostatically Assisted Air Filtration by Polydopamine Coated PET Coarse Filter (Small 33/2021). Small, 2021, 17, 2170172.	5.2	1

#	ARTICLE	IF	CITATIONS
523	Peristalsis-like migration of carbon-metabolizing catalytic nanoparticles. <i>Extreme Mechanics Letters</i> , 2021, 49, 101463.	2.0	1
524	Atomistic Calculation of Mechanical Behavior. , 2005, , 773-792.		1
525	Multiscale Modeling of Defect Nucleation and Reaction: Bulk to Nanostructures. <i>Solid Mechanics and Its Applications</i> , 2004, , 223-233.	0.1	1
526	Atomistic simulation studies of complex carbon and silicon systems using environment-dependent tight-binding potentials. <i>Lecture Notes in Computational Science and Engineering</i> , 2008, , 97-121.	0.1	1
527	Atomistic Visualization. , 2005, , 1051-1068.		1
528	Stable two-dimensional lead iodide hybrid materials for light detection and broadband photoluminescence. <i>Materials Chemistry Frontiers</i> , 2021, 6, 71-77.	3.2	1
529	Nanomechanics of Crack Front Mobility. , 2006, , 217-223.		0
530	In-Situ Transmission Electron Microscopy Observation of Solid Electrolyte Interface Formation On Si Nanowire Electrode in the Li-Ion Battery Using Liquid Confining Cell. <i>ECS Meeting Abstracts</i> , 2013, , .	0.0	0
531	Electron-Beam Manipulation of Lattice Impurities in Graphene and Single-Walled Carbon Nanotubes. <i>Microscopy and Microanalysis</i> , 2019, 25, 938-939.	0.2	0
532	In-Situ Observation of Concurrent Oxidation and Mechanical Deformation in Al and Zr. <i>Microscopy and Microanalysis</i> , 2019, 25, 1912-1913.	0.2	0
533	Coexistence of multi-deformation modes in beta Ti alloys with improved yielding strength and ductility. <i>MATEC Web of Conferences</i> , 2020, 321, 11069.	0.1	0
534	EELS Evidence for Nascent Polymerization of Carbon and Silicon in Amorphization of SiC. <i>Microscopy and Microanalysis</i> , 2020, 26, 648-651.	0.2	0
535	Highly efficient parallel grand canonical simulations of interstitial-driven diffusion-deformation processes. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2021, 29, 055018.	0.8	0
536	Topological Phase Transition: Terahertz Driven Reversible Topological Phase Transition of Monolayer Transition Metal Dichalcogenides ( <i>Adv. Sci.</i> 12/2021). <i>Advanced Science</i> , 2021, 8, 2170072.	5.6	0
537	Friction and Adhesion Govern Yielding of Disordered Nanoparticle Packings: A Multiscale Adhesive Discrete Element Method Study. <i>Nano Letters</i> , 2021, 21, 7989-7997.	4.5	0
538	Atomistic measures of mechanical deformation and thermal transport processes. , 2001, , 1430-1433.		0
539	Optimal particle controller for coupled continuum/MD fluid simulation. , 2001, , 895-898.		0
540	Nonlinear Dynamics Analysis through Molecular Dynamics Simulations. <i>Lecture Notes in Computational Science and Engineering</i> , 2004, , 69-79.	0.1	0

#	ARTICLE	IF	CITATIONS
541	Defect Nucleation. Solid Mechanics and Its Applications, 2004, , 203-211.	0.1	0
542	Understanding the Interplay between Li Intercalation and Li Plating Using Single Graphite Particle Electrochemistry. ECS Meeting Abstracts, 2020, MA2020-01, 447-447.	0.0	0
543	(Invited) Controlling the Size and Dispersion of Exsolved Catalyst Particles By Electrochemistry and By Strain. ECS Meeting Abstracts, 2020, MA2020-01, 1473-1473.	0.0	0
544	Flexible Ferroelectrics: Periodic Wrinkleâ€Patterned Singleâ€Crystalline Ferroelectric Oxide Membranes with Enhanced Piezoelectricity (Adv. Mater. 50/2020). Advanced Materials, 2020, 32, 2070377.	11.1	0
545	Advanced Electron Microscopy Characterization of Intergranular Corrosion in Ni-20Cr Alloy Under Molten Salt Environment. Microscopy and Microanalysis, 2020, 26, 180-182.	0.2	0
546	Complex Structure of Molten NaCl-CrCl <sub>x</sub> Salts: Octahedra Network and Intermediate-Range Order. ECS Meeting Abstracts, 2020, MA2020-02, 2918-2918.	0.0	0
547	Atomistic Calculation of Mechanical Behavior. , 2005, , 773-792.		0