Huajian Gao

List of Publications by Year
in descending order

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560 papers	53,012 citations	1099 112 h-index	1755 212 g-index
569 all docs	569 docs citations	569 times ranked	35500 citing authors

#	Article	IF	Citations
1	Indentation size effects in crystalline materials: A law for strain gradient plasticity. Journal of the Mechanics and Physics of Solids, 1998, 46, 411-425.	4.8	3,595
2	Mechanism-based strain gradient plasticity? I. Theory. Journal of the Mechanics and Physics of Solids, 1999, 47, 1239-1263.	4.8	1,757
3	Materials become insensitive to flaws at nanoscale: Lessons from nature. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 5597-5600.	7.1	1,641
4	From The Cover: Mechanics of receptor-mediated endocytosis. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 9469-9474.	7.1	1,083
5	Dislocation nucleation governed softening and maximum strength in nano-twinned metals. Nature, 2010, 464, 877-880.	27.8	956
6	A review on mechanics and mechanical properties of 2D materialsâ€"Graphene and beyond. Extreme Mechanics Letters, 2017, 13, 42-77.	4.1	920
7	Physical Principles of Nanoparticle Cellular Endocytosis. ACS Nano, 2015, 9, 8655-8671.	14.6	852
8	Mechanical properties of nanostructure of biological materials. Journal of the Mechanics and Physics of Solids, 2004, 52, 1963-1990.	4.8	794
9	Effect of single wall carbon nanotubes on human HEK293 cells. Toxicology Letters, 2005, 155, 73-85.	0.8	773
10	Evading the strengthâ€"ductility trade-off dilemma in steel through gradient hierarchical nanotwins. Nature Communications, 2014, 5, 3580.	12.8	739
11	Graphene microsheets enter cells through spontaneous membrane penetration at edge asperities and corner sites. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 12295-12300.	7.1	665
12	The Effect of Nanotube Waviness and Agglomeration on the Elastic Property of Carbon Nanotube-Reinforced Composites. Journal of Engineering Materials and Technology, Transactions of the ASME, 2004, 126, 250-257.	1.4	649
13	Mechanics of morphological instabilities and surface wrinkling in soft materials: a review. Soft Matter, 2012, 8, 5728.	2.7	620
14	Mechanics of hierarchical adhesion structures of geckos. Mechanics of Materials, 2005, 37, 275-285.	3.2	592
15	Mechanism-based strain gradient plasticityâ€"II. Analysis. Journal of the Mechanics and Physics of Solids, 2000, 48, 99-128.	4.8	562
16	Size-dependent elastic properties of a single-walled carbon nanotube via a molecular mechanics model. Journal of the Mechanics and Physics of Solids, 2003, 51, 1059-1074.	4.8	524
17	Heterostructured materials: superior properties from hetero-zone interaction. Materials Research Letters, 2021, 9, 1-31.	8.7	505
18	Geometrically necessary dislocation and size-dependent plasticity. Scripta Materialia, 2003, 48, 113-118.	5.2	500

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19	Interface Engineering of Layerâ€byâ€Layer Stacked Graphene Anodes for Highâ€Performance Organic Solar Cells. Advanced Materials, 2011, 23, 1514-1518.	21.0	489
20	A conventional theory of mechanism-based strain gradient plasticity. International Journal of Plasticity, 2004, 20, 753-782.	8.8	467
21	Extra strengthening and work hardening in gradient nanotwinned metals. Science, 2018, 362, .	12.6	465
22	Local and global energy release rates for an electrically yielded crack in a piezoelectric ceramic. Journal of the Mechanics and Physics of Solids, 1997, 45, 491-510.	4.8	464
23	Spontaneous Insertion of DNA Oligonucleotides into Carbon Nanotubes. Nano Letters, 2003, 3, 471-473.	9.1	432
24	Cell entry of one-dimensional nanomaterials occurs by tip recognition and rotation. Nature Nanotechnology, 2011, 6, 714-719.	31.5	416
25	Application of Fracture Mechanics Concepts to Hierarchical Biomechanics of Bone and Bone-like Materials. International Journal of Fracture, 2006, 138, 101-137.	2.2	411
26	Elastic contact versus indentation modeling of multi-layered materials. International Journal of Solids and Structures, 1992, 29, 2471-2492.	2.7	404
27	Shape insensitive optimal adhesion of nanoscale fibrillar structures. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 7851-7856.	7.1	395
28	Deformation mechanisms in nanotwinned metal nanopillars. Nature Nanotechnology, 2012, 7, 594-601.	31.5	385
29	Cellular Uptake of Elastic Nanoparticles. Physical Review Letters, 2011, 107, 098101.	7.8	363
30	Interface affected zone for optimal strength and ductility in heterogeneous laminate. Materials Today, 2018, 21, 713-719.	14.2	357
31	Mechanical properties and deformation mechanisms of gradient nanostructured metals and alloys. Nature Reviews Materials, 2020, 5, 706-723.	48.7	345
32	A cohesive law for carbon nanotube/polymer interfaces based on the van der Waals force. Journal of the Mechanics and Physics of Solids, 2006, 54, 2436-2452.	4.8	308
33	A new class of synthetic retinoid antibiotics effective against bacterial persisters. Nature, 2018, 556, 103-107.	27.8	307
34	Mechanics of robust and releasable adhesion in biology: Bottomâ€“up designed hierarchical structures of gecko. Journal of the Mechanics and Physics of Solids, 2006, 54, 1120-1146.	4.8	303
35	Numerical simulation of crack growth in an isotropic solid with randomized internal cohesive bonds. Journal of the Mechanics and Physics of Solids, 1998, 46, 187-218.	4.8	297
36	Hyperelasticity governs dynamic fracture at a critical length scale. Nature, 2003, 426, 141-146.	27.8	292

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37	Generalized stacking fault energies for embedded atom FCC metals. Modelling and Simulation in Materials Science and Engineering, 2000, 8, 103-115.	2.0	279
38	Plastic anisotropy and associated deformation mechanisms in nanotwinned metals. Acta Materialia, 2013, 61, 217-227.	7.9	272
39	A First-Order Perturbation Analysis of Crack Trapping by Arrays of Obstacles. Journal of Applied Mechanics, Transactions ASME, 1989, 56, 828-836.	2.2	266
40	Dislocations Faster than the Speed of Sound. Science, 1999, 283, 965-968.	12.6	263
41	Dynamical fracture instabilities due to local hyperelasticity at crack tips. Nature, 2006, 439, 307-310.	27.8	251
42	Role of Nanoparticle Mechanical Properties in Cancer Drug Delivery. ACS Nano, 2019, 13, 7410-7424.	14.6	243
43	SURFACE ROUGHENING OF HETEROEPITAXIAL THIN FILMS. Annual Review of Materials Research, 1999, 29, 173-209.	5.5	239
44	Effects of contact shape on the scaling of biological attachments. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2005, 461, 305-319.	2.1	236
45	Explanation for fracture spacing in layered materials. Nature, 2000, 403, 753-756.	27.8	233
46	Discontinuous crack-bridging model for fracture toughness analysis of nacre. Journal of the Mechanics and Physics of Solids, 2012, 60, 1400-1419.	4.8	233
47	Energy Dissipation in Gigahertz Oscillators from Multiwalled Carbon Nanotubes. Physical Review Letters, 2003, 91, 125501.	7.8	228
48	Ultrasonic technique for extracting nanofibers from nature materials. Applied Physics Letters, 2007, 90, 073112.	3.3	225
49	Two Characteristic Regimes in Frequency-Dependent Dynamic Reorientation of Fibroblasts on Cyclically Stretched Substrates. Biophysical Journal, 2008, 95, 3470-3478.	0.5	221
50	Flaw Insensitive Fracture in Nanocrystalline Graphene. Nano Letters, 2012, 12, 4605-4610.	9.1	221
51	Role of Nanoparticle Geometry in Endocytosis: Laying Down to Stand Up. Nano Letters, 2013, 13, 4546-4550.	9.1	221
52	Biological and environmental interactions of emerging two-dimensional nanomaterials. Chemical Society Reviews, 2016, 45, 1750-1780.	38.1	216
53	Some general properties of stress-driven surface evolution in a heteroepitaxial thin film structure. Journal of the Mechanics and Physics of Solids, 1994, 42, 741-772.	4.8	215
54	Mechanism-based strain gradient crystal plasticityâ€"I. Theory. Journal of the Mechanics and Physics of Solids, 2005, 53, 1188-1203.	4.8	210

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55	Surface Wrinkling Patterns on a Core-Shell Soft Sphere. Physical Review Letters, 2011, 106, 234301.	7.8	207
56	Improved cycling stability of silicon thin film electrodes through patterning for high energy density lithium batteries. Journal of Power Sources, 2011, 196, 1409-1416.	7.8	207
57	Ultralight, scalable, and high-temperatureâ€“resilient ceramic nanofiber sponges. Science Advances, 2017, 3, e1603170.	10.3	207
58	A Study of Microindentation Hardness Tests by Mechanism-based Strain Gradient Plasticity. Journal of Materials Research, 2000, 15, 1786-1796.	2.6	206
59	Plastic deformation mechanism in nanotwinned metals: An insight from molecular dynamics and mechanistic modeling. Scripta Materialia, 2012, 66, 843-848.	5.2	205
60	SIMULATION OF DNA-NANOTUBE INTERACTIONS. Annual Review of Materials Research, 2004, 34, 123-150.	9.3	201
61	Crack-like grain-boundary diffusion wedges in thin metal films. Acta Materialia, 1999, 47, 2865-2878.	7.9	199
62	Taylor-based nonlocal theory of plasticity. International Journal of Solids and Structures, 2001, 38, 2615-2637.	2.7	199
63	Modeling Plasticity at the Micrometer Scale. Die Naturwissenschaften, 1999, 86, 507-515.	1.6	196
64	Nano to Micro Structural Hierarchy Is Crucial for Stable Superhydrophobic and Water-Repellent Surfaces. Langmuir, 2010, 26, 4984-4989.	3.5	196
65	Surface wrinkling of mucosa induced by volumetric growth: Theory, simulation and experiment. Journal of the Mechanics and Physics of Solids, 2011, 59, 758-774.	4.8	196
66	History-independent cyclic response of nanotwinned metals. Nature, 2017, 551, 214-217.	27.8	195
67	Modeling grain size dependent optimal twin spacing for achieving ultimate high strength and related high ductility in nanotwinned metals. Acta Materialia, 2011, 59, 5544-5557.	7.9	193
68	How Fast Can Cracks Propagate?. Physical Review Letters, 2000, 84, 3113-3116.	7.8	187
69	Rapid transport of deformation-tuned nanoparticles across biological hydrogels and cellular barriers. Nature Communications, 2018, 9, 2607.	12.8	186
70	On optimal hierarchy of load-bearing biological materials. Proceedings of the Royal Society B: Biological Sciences, 2011, 278, 519-525.	2.6	183
71	An instability index of shear band for plasticity in metallic glasses. Acta Materialia, 2009, 57, 1367-1372.	7.9	182
72	Atomic Scale Fluctuations Govern Brittle Fracture and Cavitation Behavior in Metallic Glasses. Physical Review Letters, 2011, 107, 215501.	7.8	177

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73	Cohesive modeling of crack nucleation under diffusion induced stresses in a thin strip: Implications on the critical size for flaw tolerant battery electrodes. International Journal of Solids and Structures, 2010, 47, 1424-1434.	2.7	176
74	Gradient plasticity in gradient nano-grained metals. Extreme Mechanics Letters, 2016, 8, 213-219.	4.1	176
75	Continuum and atomistic models of strongly coupled diffusion, stress, and solute concentration. Journal of Power Sources, 2011, 196, 361-370.	7.8	173
76	Surface-structure-regulated penetration of nanoparticles across a cell membrane. Nanoscale, 2012, 4, 3768.	5.6	172
77	Mechanical properties and scaling laws of nanoporous gold. Journal of Applied Physics, 2013, 113, .	2.5	171
78	Mechanical Principles of Biological Nanocomposites. Annual Review of Materials Research, 2010, 40, 77-100.	9.3	165
79	Plasticity contributions to interface adhesion in thin-film interconnect structures. Journal of Materials Research, 2000, 15, 2758-2769.	2.6	164
80	Mechanical properties of unidirectional nanocomposites with non-uniformly or randomly staggered platelet distribution. Journal of the Mechanics and Physics of Solids, 2010, 58, 1646-1660.	4.8	162
81	The effect of nanotube radius on the constitutive model for carbon nanotubes. Computational Materials Science, 2003, 28, 429-442.	3.0	160
82	Lightweight, flaw-tolerant, and ultrastrong nanoarchitected carbon. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 6665-6672.	7.1	158
83	Crack nucleation and growth as strain localization in a virtual-bond continuum. Engineering Fracture Mechanics, 1998, 61, 21-48.	4.3	157
84	A viscoelastic adhesive epicardial patch for treating myocardial infarction. Nature Biomedical Engineering, 2019, 3, 632-643.	22.5	156
85	Multiscale crack initiator promoted super-low ice adhesion surfaces. Soft Matter, 2017, 13, 6562-6568.	2.7	150
86	Stress concentration at slightly undulating surfaces. Journal of the Mechanics and Physics of Solids, 1991, 39, 443-458.	4.8	149
87	Enhanced strain-rate sensitivity in fcc nanocrystals due to grain-boundary diffusion and sliding. Acta Materialia, 2008, 56, 1741-1752.	7.9	149
88	Regulated Breathing Effect of Silicon Negative Electrode for Dramatically Enhanced Performance of Liâ€ion Battery. Advanced Functional Materials, 2015, 25, 1426-1433.	14.9	149
89	Effects of single-walled carbon nanotubes on the polymerase chain reaction. Nanotechnology, 2004, 15, 154-157.	2.6	148
90	A machine learning approach to fracture mechanics problems. Acta Materialia, 2020, 190, 105-112.	7.9	146

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91	A study of fracture mechanisms in biological nano-composites via the virtual internal bond model. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 366, 96-103.	5.6	145
92	Effects of H-, N-, and (H, N)-Doping on the Photocatalytic Activity of TiO₂. Journal of Physical Chemistry C, 2011, 115, 12224-12231.	3.1	144
93	Fracture of graphene: a review. International Journal of Fracture, 2015, 196, 1-31.	2.2	144
94	Nanoparticle elasticity regulates phagocytosis and cancer cell uptake. Science Advances, 2020, 6, eaaz4316.	10.3	143
95	Physics-based modeling of brittle fracture: cohesive formulations and the application of meshfree methods. Theoretical and Applied Fracture Mechanics, 2001, 37, 99-166.	4.7	142
96	A theory of local limiting speed in dynamic fracture. Journal of the Mechanics and Physics of Solids, 1996, 44, 1453-1474.	4.8	141
97	Rotation-Facilitated Rapid Transport of Nanorods in Mucosal Tissues. Nano Letters, 2016, 16, 7176-7182.	9.1	140
98	Recoverable plasticity in penta-twinned metallic nanowires governed by dislocation nucleation and retraction. Nature Communications, 2015, 6, 5983.	12.8	135
99	A boundary perturbation analysis for elastic inclusions and interfaces. International Journal of Solids and Structures, 1991, 28, 703-725.	2.7	130
100	Strain relaxation and defect formation in heteroepitaxial Si1â^'xGex films via surface roughening induced by controlled annealing experiments. Applied Physics Letters, 1997, 70, 2247-2249.	3.3	130
101	Defects controlled wrinkling and topological design in graphene. Journal of the Mechanics and Physics of Solids, 2014, 67, 2-13.	4.8	130
102	Simulating materials failure by using up to one billion atoms and the world's fastest computer: Brittle fracture. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 5777-5782.	7.1	129
103	Constrained diffusional creep in UHV-produced copper thin films. Acta Materialia, 2001, 49, 2395-2403.	7.9	128
104	Nanotwin-governed toughening mechanism in hierarchically structured biological materials. Nature Communications, 2016, 7, 10772.	12.8	127
105	Continuum and atomistic studies of intersonic crack propagation. Journal of the Mechanics and Physics of Solids, 2001, 49, 2113-2132.	4.8	126
106	Somewhat circular tensile cracks. International Journal of Fracture, 1987, 33, 155-174.	2.2	120
107	Competing grain-boundary- and dislocation-mediated mechanisms in plastic strain recovery in nanocrystalline aluminum. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 16108-16113.	7.1	120
108	Deformation gradients for continuum mechanical analysis of atomistic simulations. International Journal of Solids and Structures, 2009, 46, 238-253.	2.7	120

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109	Stress Mitigation during the Lithiation of Patterned Amorphous Si Islands. Journal of the Electrochemical Society, 2011, 159, A38-A43.	2.9	119
110	New directions in mechanics. Mechanics of Materials, 2005, 37, 231-259.	3.2	118
111	Ab Initio Study on a Novel Photocatalyst: Functionalized Graphitic Carbon Nitride Nanotube. ACS Catalysis, 2011, 1, 99-104.	11.2	118
112	Cellular entry of graphene nanosheets: the role of thickness, oxidation and surface adsorption. RSC Advances, 2013, 3, 15776.	3.6	118
113	A selective membrane-targeting repurposed antibiotic with activity against persistent methicillin-resistant Staphylococcus aureus. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 16529-16534.	7.1	117
114	Surface roughening and branching instabilities in dynamic fracture. Journal of the Mechanics and Physics of Solids, 1993, 41, 457-486.	4.8	114
115	Simulating materials failure by using up to one billion atoms and the world's fastest computer: Work-hardening. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 5783-5787.	7.1	114
116	Stress singularities along a cycloid rough surface. International Journal of Solids and Structures, 1993, 30, 2983-3012.	2.7	113
117	Fracture Nucleation in Single-Wall Carbon Nanotubes Under Tension: A Continuum Analysis Incorporating Interatomic Potentials. Journal of Applied Mechanics, Transactions ASME, 2002, 69, 454-458.	2.2	111
118	Modeling fracture in nanomaterials via a virtual internal bond method. Engineering Fracture Mechanics, 2003, 70, 1777-1791.	4.3	111
119	Deformation Mechanisms of Very Long Single-Wall Carbon Nanotubes Subject to Compressive Loading. Journal of Engineering Materials and Technology, Transactions of the ASME, 2004, 126, 245-249.	1.4	111
120	Modern topics and challenges in dynamic fracture. Journal of the Mechanics and Physics of Solids, 2005, 53, 565-596.	4.8	111
121	Kinetics of receptor-mediated endocytosis of elastic nanoparticles. Nanoscale, 2017, 9, 454-463.	5.6	111
122	Tunable Water Channels with Carbon Nanoscrolls. Small, 2010, 6, 739-744.	10.0	110
123	A Universal Law for Cell Uptake of One-Dimensional Nanomaterials. Nano Letters, 2014, 14, 1049-1055.	9.1	110
124	Pre-tension generates strongly reversible adhesion of a spatula pad on substrate. Journal of the Royal Society Interface, 2009, 6, 529-537.	3.4	109
125	Nanomechanical mechanism for lipid bilayer damage induced by carbon nanotubes confined in intracellular vesicles. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 12374-12379.	7.1	109
126	An atomistic interpretation of interface stress. Scripta Materialia, 1998, 39, 1653-1661.	5.2	108

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127	Three-Dimensional High-Entropy Alloyâ€“Polymer Composite Nanolattices That Overcome the Strengthâ€“Recoverability Trade-off. Nano Letters, 2018, 18, 4247-4256.	9.1	108
128	Kinetics and fracture resistance of lithiated silicon nanostructure pairs controlled by their mechanical interaction. Nature Communications, 2015, 6, 7533.	12.8	107
129	Smaller and stronger. Nature Materials, 2016, 15, 373-374.	27.5	106
130	Intrinsic toughening and stable crack propagation in hexagonal boron nitride. Nature, 2021, 594, 57-61.	27.8	105
131	Nanowire Failure: Long = Brittle and Short = Ductile. Nano Letters, 2012, 12, 910-914.	9.1	104
132	Shear Stress Intensity Factors for a Planar Crack With Slightly Curved Front. Journal of Applied Mechanics, Transactions ASME, 1986, 53, 774-778.	2.2	103
133	Scaling effects of wet adhesion in biological attachment systems. Acta Biomaterialia, 2006, 2, 51-58.	8.3	103
134	A Monte Carlo form-finding method for large scale regular and irregular tensegrity structures. International Journal of Solids and Structures, 2010, 47, 1888-1898.	2.7	103
135	Elastic properties of nanocomposite structure of bone. Composites Science and Technology, 2006, 66, 1212-1218.	7.8	102
136	Lifetime and Strength of Adhesive Molecular Bond Clusters between Elastic Media. Langmuir, 2008, 24, 1262-1270.	3.5	101
137	Designing graphene structures with controlled distributions of topological defects: A case study of toughness enhancement in graphene ruga. Extreme Mechanics Letters, 2014, 1, 3-8.	4.1	101
138	Cytotoxicity of graphene: recent advances and future perspective. Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology, 2014, 6, 452-474.	6.1	101
139	Method to deduce the critical size for interfacial delamination of patterned electrode structures and application to lithiation of thin-film silicon islands. Journal of Power Sources, 2012, 206, 357-366.	7.8	98
140	A characteristic length for stress transfer in the nanostructure of biological composites. Composites Science and Technology, 2009, 69, 1160-1164.	7.8	97
141	Some basic questions on mechanosensing in cellâ€“substrate interaction. Journal of the Mechanics and Physics of Solids, 2014, 70, 116-135.	4.8	97
142	Bio-inspired mechanics of reversible adhesion: Orientation-dependent adhesion strength for non-slipping adhesive contact with transversely isotropic elastic materials. Journal of the Mechanics and Physics of Solids, 2007, 55, 1001-1015.	4.8	92
143	A Jogged Dislocation Governed Strengthening Mechanism in Nanotwinned Metals. Nano Letters, 2014, 14, 5075-5080.	9.1	92
144	This article has been retracted.Advance and Prospect of Bionanomaterials. Biotechnology Progress, 2003, 19, 683-692.	2.6	91

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145	Identification of elastic-plastic material parameters from pyramidal indentation of thin films. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2002, 458, 1593-1620.	2.1	90
146	Cyclic Deformation in Metallic Glasses. Nano Letters, 2015, 15, 7010-7015.	9.1	89
147	Nanoscale precipitates as sustainable dislocation sources for enhanced ductility and high strength. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 5204-5209.	7.1	87
148	Coarse grained molecular dynamics and theoretical studies of carbon nanotubes entering cell membrane. Acta Mechanica Sinica/Lixue Xuebao, 2008, 24, 161-169.	3.4	85
149	Cohesive modeling of crack nucleation in a cylindrical electrode under axisymmetric diffusion induced stresses. International Journal of Solids and Structures, 2011, 48, 2304-2309.	2.7	85
150	Probing mechanical principles of focal contacts in cellâ€“matrix adhesion with a coupled stochasticâ€“elastic modelling framework. Journal of the Royal Society Interface, 2011, 8, 1217-1232.	3.4	85
151	Flaw Tolerance in a Thin Strip Under Tension. Journal of Applied Mechanics, Transactions ASME, 2005, 72, 732-737.	2.2	83
152	Multi-scale cohesive laws in hierarchical materials. International Journal of Solids and Structures, 2007, 44, 8177-8193.	2.7	82
153	Recoverable creep deformation and transient local stress concentration due to heterogeneous grain-boundary diffusion and sliding in polycrystalline solids. Journal of the Mechanics and Physics of Solids, 2008, 56, 1460-1483.	4.8	82
154	Mechanics of adhesive contact on a power-law graded elastic half-space. Journal of the Mechanics and Physics of Solids, 2009, 57, 1437-1448.	4.8	81
155	Lifetime and Strength of Periodic Bond Clusters between Elastic Media under Inclined Loading. Biophysical Journal, 2009, 97, 2438-2445.	0.5	81
156	A translational nanoactuator based on carbon nanoscrolls on substrates. Applied Physics Letters, 2010, 96, .	3.3	81
157	Thermal-Induced Edge Barriers and Forces in Interlayer Interaction of Concentric Carbon Nanotubes. Physical Review Letters, 2011, 107, 105502.	7.8	81
158	Temperature- and rigidity-mediated rapid transport of lipid nanovesicles in hydrogels. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 5362-5369.	7.1	81
159	Hierarchical modelling of attachment and detachment mechanisms of gecko toe adhesion. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2008, 464, 1639-1652.	2.1	80
160	Theoretical strength and rubber-like behaviour in micro-sized pyrolytic carbon. Nature Nanotechnology, 2019, 14, 762-769.	31.5	80
161	Repulsive force between screw dislocation and coherent twin boundary in aluminum and copper. Physical Review B, 2007, 75, .	3.2	78
162	Towards understanding the structureâ€“property relationships of heterogeneous-structured materials. Scripta Materialia, 2020, 186, 304-311.	5.2	78

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163	In situ observations of crack arrest and bridging by nanoscale twins in copper thin films. Acta Materialia, 2012, 60, 2959-2972.	7.9	77
164	Modeling Active Mechanosensing in Cellâ€“Matrix Interactions. Annual Review of Biophysics, 2015, 44, 1-32.	10.0	77
165	Scalable Synthesis of 2D Si Nanosheets. Advanced Materials, 2017, 29, 1701777.	21.0	77
166	Self-Assembly of Single-Walled Carbon Nanotubes into Multiwalled Carbon Nanotubes in Water:Â Molecular Dynamics Simulations. Nano Letters, 2006, 6, 430-434.	9.1	75
167	Poisson ratio can play a crucial role in mechanical properties of biocomposites. Mechanics of Materials, 2006, 38, 1128-1142.	3.2	75
168	A surface locking instability for atomic intercalation into a solid electrode. Applied Physics Letters, 2010, 96, .	3.3	75
169	Li Segregation Induces Structure and Strength Changes at the Amorphous Si/Cu Interface. Nano Letters, 2013, 13, 4759-4768.	9.1	75
170	A Numerical Study of Electro-migration Voiding by Evolving Level Set Functions on a Fixed Cartesian Grid. Journal of Computational Physics, 1999, 152, 281-304.	3.8	74
171	Cell membrane wrapping of a spherical thin elastic shell. Soft Matter, 2015, 11, 1107-1115.	2.7	74
172	Regain Strain-Hardening in High-Strength Metals by Nanofiller Incorporation at Grain Boundaries. Nano Letters, 2018, 18, 6255-6264.	9.1	74
173	Effect of local polarization switching on piezoelectric fracture. Journal of the Mechanics and Physics of Solids, 2001, 49, 927-952.	4.8	72
174	Nanoscale Directional Motion towards Regions of Stiffness. Physical Review Letters, 2015, 114, 015504.	7.8	72
175	Metallic glass-based chiral nanolattice: Light weight, auxeticity, and superior mechanical properties. Materials Today, 2017, 20, 569-576.	14.2	72
176	Microscopic model for fracture of crystalline Si nanopillars during lithiation. Journal of Power Sources, 2014, 255, 274-282.	7.8	71
177	Mechanism-based strain gradient crystal plasticityâ€”II. Analysis. Journal of the Mechanics and Physics of Solids, 2005, 53, 1204-1222.	4.8	70
178	Tunable Core Size of Carbon Nanoscrolls. Journal of Computational and Theoretical Nanoscience, 2010, 7, 517-521.	0.4	70
179	Large anelasticity and associated energy dissipation in single-crystalline nanowires. Nature Nanotechnology, 2015, 10, 687-691.	31.5	70
180	The asbestos-carbon nanotube analogy: An update. Toxicology and Applied Pharmacology, 2018, 361, 68-80.	2.8	70

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181	Failure progression in the solid electrolyte interphase (SEI) on silicon electrodes. Nano Energy, 2020, 68, 104257.	16.0	70
182	On intrinsic brittleness and ductility of intergranular fracture along symmetrical tilt grain boundaries in copper. Acta Materialia, 2010, 58, 2293-2299.	7.9	69
183	Is Stress Concentration Relevant for Nanocrystalline Metals?. Nano Letters, 2011, 11, 2510-2516.	9.1	69
184	On the notch sensitivity of CuZr metallic glasses. Applied Physics Letters, 2013, 103, .	3.3	68
185	Atomistic origin of size effects in fatigue behavior of metallic glasses. Journal of the Mechanics and Physics of Solids, 2017, 104, 84-95.	4.8	68
186	Electrical Nonlinearity in Fracture of Piezoelectric Ceramics. Applied Mechanics Reviews, 1997, 50, S56-S63.	10.1	67
187	Origin of anomalous inverse notch effect in bulk metallic glasses. Journal of the Mechanics and Physics of Solids, 2015, 84, 85-94.	4.8	67
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