Linli Zhu

List of Publications by Year
in descending order

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79 papers	2,252 citations	304368 22 h-index	233125 45 g-index
80 all docs	80 docs citations	80 times ranked	1995 citing authors

#	Article	IF	Citations
1	Dual-phase nanostructuring as a route to high-strength magnesium alloys. Nature, 2017, 545, 80-83.	13.7	458
2	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.	3.8	193
3	Modelling the plastic deformation of nanostructured metals with bimodal grain size distribution. International Journal of Plasticity, 2012, 30-31, 166-184.	4.1	154
4	High-pressure strengthening in ultrafine-grained metals. Nature, 2020, 579, 67-72.	13.7	96
5	Microstructures-based constitutive analysis for mechanical properties of gradient-nanostructured 304 stainless steels. Acta Materialia, 2017, 128, 375-390.	3.8	86
6	High-order hierarchical nanotwins with superior strength and ductility. Acta Materialia, 2018, 149, 397-406.	3.8	85
7	Analysis of the twin spacing and grain size effects on mechanical properties in hierarchically nanotwinned face-centered cubic metals based on a mechanism-based plasticity model. Journal of the Mechanics and Physics of Solids, 2015, 76, 162-179.	2.3	74
8	A statistical model for predicting the mechanical properties of nanostructured metals with bimodal grain size distribution. Acta Materialia, 2012, 60, 5762-5772.	3.8	57
9	Nature-Inspired Hierarchical Steels. Scientific Reports, 2018, 8, 5088.	1.6	47
10	Theory of designing the gradient microstructured metals for overcoming strength-ductility trade-off. Scripta Materialia, 2020, 184, 41-45.	2.6	47
11	Micromechanical simulation of fracture behavior of bimodal nanostructured metals. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 618, 479-489.	2.6	45
12	On the role of hierarchical twins for achieving maximum yield strength in nanotwinned metals. Applied Physics Letters, 2012, 101, 081906.	1.5	44
13	Impact of grain sizes on phonon thermal conductivity of bulk thermoelectric materials. Applied Physics Letters, 2005, 87, 242101.	1.5	43
14	Impact of grain size on the Seebeck coefficient of bulk polycrystalline thermoelectric materials. Science Bulletin, 2010, 55, 16-21.	1.7	43
15	High strength and high ductility copper obtained by topologically controlled planar heterogeneous structures. Scripta Materialia, 2016, 124, 103-107.	2.6	37
16	Simulation of ballistic performance of a two-layered structure of nanostructured metal and ceramic. Composite Structures, 2016, 157, 163-173.	3.1	32
17	Magnetic graphene oxide as adsorbent for the determination of polycyclic aromatic hydrocarbon metabolites in human urine. Journal of Separation Science, 2014, 37, 2591-2598.	1.3	30
18	Static and dynamic mechanical behaviors of gradient-nanotwinned stainless steel with a composite structure: Experiments and modeling. International Journal of Plasticity, 2019, 114, 272-288.	4.1	30

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19	Influence of interface energy and grain boundary on the elastic modulus of nanocrystalline materials. Acta Mechanica, 2010, 213, 223-234.	1.1	29
20	Scale law of complex deformation transitions of nanotwins in stainless steel. Nature Communications, 2019, 10, 1403.	5.8	29
21	Theoretical analysis of electric field effect on Youngâ€™s modulus of nanowires. Applied Physics Letters, 2006, 89, 153110.	1.5	25
22	Bio-Inspired High Sensitivity of Moisture-Mechanical GO Films with Period-Gradient Structures. ACS Applied Materials & Interfaces, 2020, 12, 33104-33112.	4.0	25
23	Bifunctional magnetic nanoparticles for analysis of aldehyde metabolites in exhaled breath of lung cancer patients. Journal of Chromatography A, 2014, 1324, 29-35.	1.8	24
24	Computer simulation of strength and ductility of nanotwin-strengthened coarse-grained metals. Modelling and Simulation in Materials Science and Engineering, 2014, 22, 075014.	0.8	23
25	Numerical simulation of ballistic performance of bimodal nanostructured metals. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 630, 13-26.	2.6	22
26	Two softening stages in nanotwinned Cu. Philosophical Magazine, 2014, 94, 4037-4052.	0.7	21
27	Numerical investigation of fracture behavior of nanostructured Cu with bimodal grain size distribution. Acta Mechanica, 2014, 225, 1093-1106.	1.1	21
28	Simulation of ballistic performance of coarse-grained metals strengthened by nanotwinned regions. Modelling and Simulation in Materials Science and Engineering, 2015, 23, 085009.	0.8	21
29	Size-dependent formation and thermal stability of high-order twins in hierarchical nanotwinned metals. International Journal of Plasticity, 2020, 128, 102685.	4.1	21
30	Mesh dependence of transverse cracking in laminated metals with nanograined interface layers. Engineering Fracture Mechanics, 2013, 105, 211-220.	2.0	20
31	The direct and indirect effects of nanotwin volume fraction on the strength and ductility of coarse-grained metals. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 657, 234-243.	2.6	20
32	Prediction of mechanical properties in bimodal nanotwinned metals with a composite structure. Composites Science and Technology, 2016, 123, 222-231.	3.8	19
33	Modification of the phonon thermal conductivity in spatially confined semiconductor nanofilms under stress fields. Europhysics Letters, 2009, 88, 36003.	0.7	18
34	Influence of Prestress Fields on the Phonon Thermal Conductivity of GaN Nanostructures. Journal of Heat Transfer, 2014, 136, .	1.2	16
35	Effect of grain sizes and shapes on phonon thermal conductivity of bulk thermoelectric materials. Journal of Applied Physics, 2011, 110, 024312.	1.1	15
36	On the role of piezoelectricity in phonon properties and thermal conductivity of GaN nanofilms. Theoretical and Applied Mechanics Letters, 2016, 6, 277-281.	1.3	15

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37	Grain Size Effect on Electrical Conductivity and Giant Magnetoresistance of Bulk Magnetic Polycrystals. Chinese Physics Letters, 2009, 26, 117502.	1.3	14
38	Phonon properties and thermal conductivity of GaN nanofilm under prestress and surface/interface stress. Journal of Alloys and Compounds, 2016, 685, 619-625.	2.8	14
39	A study of dynamic plasticity in austenite stainless steels with a gradient distribution of nanoscale twins. Scripta Materialia, 2017, 133, 49-53.	2.6	13
40	Data-Driven Design of Nanopore Graphene for Water Desalination. Journal of Physical Chemistry C, 2021, 125, 27685-27692.	1.5	12
41	Simulating Size and Volume Fraction-Dependent Strength and Ductility of Nanotwinned Composite Copper. Journal of Applied Mechanics, Transactions ASME, 2016, 83, .	1.1	11
42	Micromechanical modeling for mechanical properties of gradient-nanotwinned metals with a composite microstructure. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 703, 180-186.	2.6	11
43	Light-weight isometric-phase steels with superior strength-hardness-ductility combination. Scripta Materialia, 2018, 154, 230-235.	2.6	11
44	Molecular dynamics simulation of the elastic properties of metal nanowires in a transverse electric field. Nanotechnology, 2007, 18, 385703.	1.3	10
45	Grain Rotation in Plastic Deformation. Quantum Beam Science, 2019, 3, 17.	0.6	10
46	Near-ideal strength and large compressive deformability of a nano-dual-phase glass-crystal alloy in sub-micron. Scripta Materialia, 2020, 188, 290-295.	2.6	10
47	Constitutive modeling of size-dependent deformation behavior in nano-dual-phase glass-crystal alloys. International Journal of Plasticity, 2021, 137, 102918.	4.1	10
48	Modification of the elastic properties of nanostructures with surface charges in applied electric fields. European Journal of Mechanics, A/Solids, 2010, 29, 337-347.	2.1	9
49	Effects of Surface Stress on the Phonon Properties in GaN Nanofilms. Journal of Applied Mechanics, Transactions ASME, 2015, 82, .	1.1	9
50	Effects of heterogeneity and prestress field on phonon properties of semiconductor nanofilms. Computational Materials Science, 2018, 145, 14-23.	1.4	9
51	Modeling phonon thermal conductivity in spatially confined GaN nanofilms under stress fields and phonon surface scattering. AIP Advances, 2019, 9, .	0.6	9
52	Transverse surface mechanical behavior and modified elastic modulus for charged nanostructures. Europhysics Letters, 2008, 83, 66007.	0.7	8
53	Effects of surface/interface stress on phonon properties and thermal conductivity in AlN/GaN/AlN heterostructural nanofilms. Applied Physics A: Materials Science and Processing, 2019, 125, 1.	1.1	8
54	Graphene-Based Moisture Actuator with Oriented Microstructures Prepared by One-Step Laser Reduction for Accurately Controllable Responsive Direction and Position. ACS Applied Materials & Interfaces, 2022, 14, 12434-12441.	4.0	8

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55	Anomalous sudden drop of temperature-dependent Young's modulus of a plastically deformed duplex stainless steel. Materials and Design, 2019, 181, 108071.	3.3	7
56	A Theory for Electromagnetic Heat Conduction and a Numerical Model Based on Boltzmann Equation. International Journal of Nonlinear Sciences and Numerical Simulation, 2006, 7, .	0.4	6
57	Effect of quantum transport on the resistivity of metal nanocrystalline materials in an electric field. Applied Physics Letters, 2007, 91, 103108.	1.5	6
58	Effects of pre-stress and surface stress on phonon thermal conductivity of rectangular Si nanowires. Applied Physics A: Materials Science and Processing, 2015, 119, 253-263.	1.1	6
59	Simulating stress-tunable phonon and thermal properties in heterostructured AlN/GaN/AlN-nanofilms. Materials Research Express, 2019, 6, 015018.	0.8	6
60	Microstructureâ€Property Relations in the Tensile Behavior of Bimodal Nanostructured Metals. Advanced Engineering Materials, 2020, 22, 2000097.	1.6	6
61	Surface Stress Effects on the Yield Strength in Nanotwinned Polycrystal Face-Centered-Cubic Metallic Nanowires. Journal of Applied Mechanics, Transactions ASME, 2014, 81, .	1.1	5
62	Influence of surface scattering on the thermal properties of spatially confined GaN nanofilm. Chinese Physics B, 2016, 25, 086502.	0.7	5
63	Tensile Failure Modes in Nanograined Metals with Nanotwinned Regions. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 5001-5014.	1.1	5
64	The limit velocity and limit displacement of nanotwin-strengthened metals under ballistic impact. Acta Mechanica, 2018, 229, 1741-1757.	1.1	5
65	Multi-field coupling behavior of simply-supported conductive plate under the condition of a transverse strong impulsive magnetic field. Acta Mechanica Solida Sinica, 2006, 19, 203-211.	1.0	4
66	Achieving high strength and high ductility in nanostructured metals: Experiment and modelling. Theoretical and Applied Mechanics Letters, 2012, 2, 021001.	1.3	3
67	Electronâ€“acoustic phonon interaction and mobility in stressed rectangular silicon nanowires. Chinese Physics B, 2015, 24, 016201.	0.7	3
68	Micromechanical simulation on strength and ductility of two kinds of Al-based nanostructural materials. Acta Mechanica Solida Sinica, 2017, 30, 404-415.	1.0	3
69	Effects of surface charges on phonon properties and thermal conductivity in GaN nanofilms*. Chinese Physics B, 2019, 28, 086501.	0.7	3
70	Grain growth-induced strain softening in nanocrystalline magnesium: experiments and modelling. Materials Research Express, 2019, 6, 108002.	0.8	2
71	Constitutive modeling of mechanical behaviors in gradient nanostructured alloys with hierarchical dual-phased microstructures. Acta Mechanica, 2022, 233, 3197-3212.	1.1	2
72	Strain/stress-engineering in phonon properties of streesed semiconductor nanowires. , 2013, , .		1

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73	Influence of surface/interface stress on thermal conductivity of stressed GaN nanofilms. , 2015, , .		1
74	Effect of Stress-Dependent Thermal Conductivity on Thermo-Mechanical Coupling Behavior in GaN-Based Nanofilm Under Pulse Heat Source. Acta Mechanica Solida Sinica, 2021, 34, 27-39.	1.0	1
75	Theoretical insight of strengthening and hardening behavior in ultrafine-grained metals under high pressure. Physics Letters, Section A: General, Atomic and Solid State Physics, 2021, 414, 127638.	0.9	1
76	Influence of pre-stress fields on electric properties of semiconductor nanowires. AIP Conference Proceedings, 2015, , .	0.3	0
77	Numerical and experimental comparison of two nano-structuring processing techniques on making stronger stainless steels. Materials Today Communications, 2020, 24, 100419.	0.9	0
78	Modeling the strain rate-dependent constitutive behavior in nanotwinned polycrystalline metals. Physics Letters, Section A: General, Atomic and Solid State Physics, 2020, 384, 126206.	0.9	0
79	Electromagneticâ€“Thermoâ€“Mechanical Coupling Behavior of Cu/Si Layered Thin Plate Under Pulsed Magnetic Field. Acta Mechanica Solida Sinica, 0, , 1.	1.0	0