Guangming Cheng

List of Publications by Year
in descending order

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Version: 2024-02-01

72 papers	3,206 citations	159525 30 h-index	149623 56 g-index
72 all docs	72 docs citations	72 times ranked	3679 citing authors

#	Article	IF	Citations
1	Ultrastrong Mg Alloy via Nano-spaced Stacking Faults. Materials Research Letters, 2013, 1, 61-66.	4.1	268
2	Quantum-limit Chern topological magnetism in TbMn6Sn6. Nature, 2020, 583, 533-536.	13.7	253
3	New material platform for superconducting transmon qubits with coherence times exceeding 0.3 milliseconds. Nature Communications, 2021, 12, 1779.	5.8	224
4	Mechanical Properties of Silicon Carbide Nanowires: Effect of Size-Dependent Defect Density. Nano Letters, 2014, 14, 754-758.	4.5	161
5	Significant hardening due to the formation of a sigma phase matrix in a high entropy alloy. Intermetallics, 2013, 33, 81-86.	1.8	153
6	Recoverable plasticity in penta-twinned metallic nanowires governed by dislocation nucleation and retraction. Nature Communications, 2015, 6, 5983.	5.8	135
7	Strain Hardening and Size Effect in Five-fold Twinned Ag Nanowires. Nano Letters, 2015, 15, 4037-4044.	4.5	122
8	Accelerated aging of all-inorganic, interface-stabilized perovskite solar cells. Science, 2022, 377, 307-310.	6.0	121
9	In-situ atomic-scale observation of irradiation-induced void formation. Nature Communications, 2013, 4, 2288.	5.8	98
10	Effect of Ag on interfacial segregation in Mgâ€“Gdâ€“Yâ€“(Ag)â€“Zr alloy. Acta Materialia, 2015, 95, 20-29.	3.8	95
11	Morphology, structure and composition of precipitates in Al0.3CoCrCu0.5FeNi high-entropy alloy. Intermetallics, 2013, 32, 329-336.	1.8	82
12	Deformation Induced Microtwins and Stacking Faults in Aluminum Single Crystal. Physical Review Letters, 2008, 101, 115505.	2.9	81
13	Physics and model of strengthening by parallel stacking faults. Applied Physics Letters, 2013, 103, .	1.5	81
14	Grain Size Effect on Deformation Mechanisms of Nanocrystalline bcc Metals. Materials Research Letters, 2013, 1, 26-31.	4.1	78
15	Extending the Photovoltaic Response of Perovskite Solar Cells into the Nearâ€Infrared with a Narrowâ€Bandgap Organic Semiconductor. Advanced Materials, 2019, 31, e1904494.	11.1	71
16	Large anelasticity and associated energy dissipation in single-crystalline nanowires. Nature Nanotechnology, 2015, 10, 687-691.	15.6	70
17	Microstructures and mechanical properties of cast Nbâ€“Tiâ€“Siâ€“Zr alloys. Intermetallics, 2008, 16, 807-812.	1.8	67
18	Stress-introduced Î±â€³ martensite and twinning in a multifunctional titanium alloy. Scripta Materialia, 2008, 58, 9-12.	2.6	62

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19	Grain size effect on radiation tolerance of nanocrystalline Mo. Scripta Materialia, 2016, 123, 90-94.	2.6	60
20	Design and operation of silver nanowire based flexible and stretchable touch sensors. Journal of Materials Research, 2015, 30, 79-85.	1.2	48
21	Anomalous Tensile Detwinning in Twinned Nanowires. Physical Review Letters, 2017, 119, 256101.	2.9	47
22	Multiple deformation mechanisms of Tiâ€“22.4Nbâ€“0.73Taâ€“2.0Zrâ€“1.34O alloy. Applied Physics Letters, 2009, 94, 061901.	1.5	44
23	A new metastable precipitate phase in Mgâ€“Gdâ€“Yâ€“Zr alloy. Philosophical Magazine, 2014, 94, 2403-2409.	0.7	38
24	On the size-dependent elasticity of penta-twinned silver nanowires. Extreme Mechanics Letters, 2016, 8, 177-183.	2.0	38
25	Hydrogen embrittlement in metallic nanowires. Nature Communications, 2019, 10, 2004.	5.8	37
26	Fermionâ€“boson many-body interplay in a frustrated kagome paramagnet. Nature Communications, 2020, 11, 4003.	5.8	35
27	In Situ Nano-thermomechanical Experiment Reveals Brittle to Ductile Transition in Silicon Nanowires. Nano Letters, 2019, 19, 5327-5334.	4.5	34
28	Transition of Deformation Mechanisms in Single-Crystalline Metallic Nanowires. ACS Nano, 2019, 13, 9082-9090.	7.3	33
29	Band Engineering of Dirac Semimetals Using Charge Density Waves. Advanced Materials, 2021, 33, e2101591.	11.1	32
30	Evidence of a room-temperature quantum spin Hall edge state in a higher-order topological insulator. Nature Materials, 2022, 21, 1111-1115.	13.3	32
31	Soft Chemical Synthesis of H_xCrS₂: An Antiferromagnetic Material with Alternating Amorphous and Crystalline Layers. Journal of the American Chemical Society, 2019, 141, 15634-15640.	6.6	31
32	Deformation-induced Ï‰ phase in nanocrystalline Mo. Scripta Materialia, 2013, 68, 130-133.	2.6	29
33	Dislocations with edge components in nanocrystalline bcc Mo. Journal of Materials Research, 2013, 28, 1820-1826.	1.2	28
34	Microstructure and room temperature fracture toughness of cast Nbss/silicides composites alloyed with Hf. Materials Letters, 2008, 62, 2657-2660.	1.3	27
35	Effect of growth rate on microstructure and mechanical properties in a directionally solidified Nb-silicide base alloy. Materials & Design, 2009, 30, 2274-2277.	5.1	27
36	Atomic structure of Î³â€³ phase in Mgâ€“Gdâ€“Yâ€“Ag alloy induced by Ag addition. Philosophical Magazine, 2019, 99, 1957-1969.	0.7	27

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37	In-situ TEM study of dislocation interaction with twin boundary and retraction in twinned metallic nanowires. Acta Materialia, 2020, 196, 304-312.	3.8	25
38	Anneal hardening of a nanostructured Cuâ€“Al alloy processed by high-pressure torsion and rolling. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 628, 207-215.	2.6	24
39	Microstructure evolution and room temperature deformation of a unidirectionally solidified Nb-22Ti-16Si-3Ta-2Hf-7Cr-3Al-0.2Ho (at.%) alloy. Intermetallics, 2011, 19, 196-201.	1.8	22
40	Evolution of Irradiationâ€Induced Vacancy Defects in Boron Nitride Nanotubes. Small, 2016, 12, 818-824.	5.2	19
41	In-depth structure characterization and properties of (1â^'x)(Li0.05Na0.475K0.475)(Nb0.95Sb0.05)O3â^'xBiFeO3 lead-free piezoceramics. Journal of Materials Science: Materials in Electronics, 2015, 26, 9366-9372.	1.1	18
42	Observation of a linked-loop quantum state in a topological magnet. Nature, 2022, 604, 647-652.	13.7	18
43	Orientation relationship and interfacial structure betweenÎ±-Nb5Si3and Nb solid solution in the eutectic lamellar structure. Philosophical Magazine, 2009, 89, 2801-2812.	0.7	17
44	Probing the Variation of the Intervalley Tunnel Coupling in a Silicon Triple Quantum Dot. PRX Quantum, 2021, 2, .	3.5	17
45	Signatures of Weyl Fermion Annihilation in a Correlated Kagome Magnet. Physical Review Letters, 2021, 127, 256403.	2.9	17
46	On the origin and behavior of irradiation-induced c-component dislocation loops in magnesium. Acta Materialia, 2017, 131, 457-466.	3.8	16
47	The Effects of Chromophore Halogenation on the Stability of UVâ€Absorbing Organic Solar Cells. Advanced Energy Materials, 2021, 11, 2100225.	10.2	15
48	Microelectromechanical Systems for Nanomechanical Testing: Electrostatic Actuation and Capacitive Sensing for High-Strain-Rate Testing. Experimental Mechanics, 2020, 60, 329-343.	1.1	14
49	Microstructural characteristics and high temperature compressive properties at 1623K of a directionally solidified Nb-silisides based in-situ composite. Journal of Alloys and Compounds, 2009, 470, 606-609.	2.8	12
50	Characterization of a new Nbâ€“silicide (Î´-Nb₁₁Si₄) in Nbâ€“Si binary systems. Philosophical Magazine, 2010, 90, 2557-2568.	0.7	12
51	Composition design and electrical property of a pure KxNa1â^'xNbO3 single crystal fabricated by the seed-free solid-state crystal growth. Journal of Materials Science: Materials in Electronics, 2017, 28, 18357-18365.	1.1	12
52	Microelectromechanical Systems for Nanomechanical Testing: Displacement- and Force-Controlled Tensile Testing with Feedback Control. Experimental Mechanics, 2020, 60, 1005-1015.	1.1	11
53	Kinetics and Evolution of Magnetism in Soft-Chemical Synthesis of CrSe₂ from KCrSe₂. Chemistry of Materials, 2021, 33, 8070-8078.	3.2	11
54	Orientation relationship and interfacial structure between Nbsolid solution precipitates and Î±-Nb5Si3 intermetallics. Journal of Materials Research, 2009, 24, 192-197.	1.2	10

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55	TaCo₂Te₂: An Airâ€Stable, High Mobility Van der Waals Material with Probable Magnetic Order. Advanced Functional Materials, 2022, 32, .	7.8	10
56	Microstructure and Mechanical Properties of Directionally Solidified Nbâ€22Tiâ€16Siâ€7Crâ€3Alâ€3Taâ€2Hfâ€0.1Ho Alloy. Advanced Engineering Materials, 2007, 9, 963-966.	1.6	9
57	Dynamic Void Growth and Shrinkage in Mg under Electron Irradiation. Materials Research Letters, 2014, 2, 176-183.	4.1	7
58	Competition between shear localization and tensile detwinning in twinned nanowires. Physical Review Materials, 2020, 4, .	0.9	7
59	Observation of [V_{Cu}^{1â€“}In_i²⁺V_{Cu}^{1â€“}] Defect Triplets in Cu-Deficient CuInS₂. Journal of Physical Chemistry C, 2020, 124, 26415-26427.	1.5	5
60	In Situ Nano-thermo-mechanical Experiment Reveals Brittle to Ductile Transition in Si Nanowires. Microscopy and Microanalysis, 2020, 26, 3192-3194.	0.2	2
61	Elevated temperature compressive behavior of Nb-22Ti-16Si-7Cr-3Al-3Ta-2Hf alloy with minor Ho addition. International Journal of Materials Research, 2008, 99, 228-232.	0.1	2
62	Magnetic Nanosheets via Chemical Exfoliation of K_{2x}Mn_xSn_{1â€“x}S₂. Chemistry of Materials, 2022, 34, 5084-5093.	3.2	2
63	Perovskite Solar Cells: Extending the Photovoltaic Response of Perovskite Solar Cells into the Nearâ€Infrared with a Narrowâ€Bandgap Organic Semiconductor (Adv. Mater. 49/2019). Advanced Materials, 2019, 31, 1970349.	11.1	1
64	Manipulation of single atoms and molecules by electron probe and mechanical force. Microscopy and Microanalysis, 2021, 27, 220-221.	0.2	1
65	Magnetic Frustration in a Zeolite. Chemistry of Materials, 2021, 33, 9725-9731.	3.2	1
66	Anomalous Tensile Detwinning in Twinned Metallic Nanowires. Microscopy and Microanalysis, 2018, 24, 1824-1825.	0.2	0
67	Anelastic Behavior in Crystalline Nanowires. Microscopy and Microanalysis, 2018, 24, 1908-1909.	0.2	0
68	In Situ Observation of Electrochemical Reduction of CO2 Using Cuprous and Intermetallic Catalysts. Microscopy and Microanalysis, 2020, 26, 1444-1446.	0.2	0
69	Tensile detwinning in bi-twinned metallic nanowires. Microscopy and Microanalysis, 2021, 27, 1488-1490.	0.2	0
70	Interaction of dislocations with twinning boundary in bi-twinned metallic nanowires. Microscopy and Microanalysis, 2021, 27, 1960-1962.	0.2	0
71	Identification of topological magnetic order in a Weyl line ferromagnet. Microscopy and Microanalysis, 2021, 27, 214-215.	0.2	0
72	Identification of interfacial defects in the layered structure of a chalcopyrite compound. Microscopy and Microanalysis, 2021, 27, 1750-1752.	0.2	0