

Guilin Wu

List of Publications by Year in descending order

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86
papers

2,990
citations

279487

23
h-index

174990

52
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all docs

86
docs citations

86
times ranked

2094
citing authors

#	ARTICLE	IF	CITATIONS
1	Heterogeneous lamella structure unites ultrafine-grain strength with coarse-grain ductility. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 14501-14505.	3.3	1,202
2	Co-enhanced SiO ₂ -BN ceramics for high-temperature dielectric applications. Journal of the European Ceramic Society, 2000, 20, 1923-1928.	2.8	151
3	Transitions in mechanical behavior and in deformation mechanisms enhance the strength and ductility of Mg-3Gd. Acta Materialia, 2020, 183, 398-407.	3.8	136
4	Strengthening mechanisms and Hall-Petch stress of ultrafine grained Al-0.3%Cu. Acta Materialia, 2018, 156, 369-378.	3.8	118
5	Enhancement of an additive-manufactured austenitic stainless steel by post-manufacture heat-treatment. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 759, 65-69.	2.6	75
6	Localized amorphism after high-strain-rate deformation in TWIP steel. Acta Materialia, 2011, 59, 6369-6377.	3.8	64
7	Fabricating interstitial-free steel with simultaneous high strength and good ductility with homogeneous layer and lamella structure. Scripta Materialia, 2017, 141, 111-114.	2.6	63
8	A new 2.4 GPa extra-high strength steel with good ductility and high toughness designed by synergistic strengthening of nano-particles and high-density dislocations. Scripta Materialia, 2020, 178, 285-289.	2.6	59
9	Advances in TEM orientation microscopy by combination of dark-field conical scanning and improved image matching. Ultramicroscopy, 2009, 109, 1317-1325.	0.8	52
10	Unraveling submicron-scale mechanical heterogeneity by three-dimensional X-ray microdiffraction. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 483-488.	3.3	52
11	Automatic determination of recrystallization parameters based on EBSD mapping. Materials Characterization, 2008, 59, 794-800.	1.9	51
12	A twin size effect on thermally activated twin boundary migration in a Mg-3Al-1Zn alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 639, 534-539.	2.6	40
13	A new proposed Weibull distribution of inclusion size and its correlation with rolling contact fatigue life of an extra clean bearing steel. International Journal of Fatigue, 2019, 126, 1-5.	2.8	39
14	Surface severe plastic deformation induced solute and precipitate redistribution in an Al-Cu-Mg alloy. Journal of Alloys and Compounds, 2019, 773, 585-596.	2.8	37
15	Tribological properties of high-entropy alloys: A review. International Journal of Minerals, Metallurgy and Materials, 2022, 29, 389-403.	2.4	36
16	Orientations of recrystallization nuclei developed in columnar-grained Ni at triple junctions and a high-angle grain boundary. Acta Materialia, 2007, 55, 4955-4964.	3.8	34
17	Physical properties of high-strength bolt materials at elevated temperatures. Results in Physics, 2019, 13, 102156.	2.0	31
18	Strengthening mechanisms in selective laser melted 316L stainless steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 832, 142434.	2.6	29

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19	Strong and ductile AZ31 Mg alloy with a layered bimodal structure. <i>Scientific Reports</i> , 2019, 9, 5428.	1.6	25
20	Crack suppression via in-situ oxidation in additively manufactured W-Ta alloy. <i>Materials Letters</i> , 2020, 263, 127212.	1.3	25
21	Evolution of microstructure and texture in copper during repetitive extrusion-upsetting and subsequent annealing. <i>Journal of Materials Science and Technology</i> , 2017, 33, 690-697.	5.6	24
22	Development of Goss texture in Al-0.3%Cu annealed after heavy rolling. <i>Journal of Alloys and Compounds</i> , 2018, 749, 399-405.	2.8	24
23	Application of atomic simulation for studying hydrogen embrittlement phenomena and mechanism in iron-based alloys. <i>International Journal of Hydrogen Energy</i> , 2022, 47, 20288-20309.	3.8	24
24	Direct observation of nucleation in the bulk of an opaque sample. <i>Scientific Reports</i> , 2017, 7, 42508.	1.6	23
25	Titanium microalloying of steel: A review of its effects on processing, microstructure and mechanical properties. <i>International Journal of Minerals, Metallurgy and Materials</i> , 2022, 29, 645-661.	2.4	23
26	Unprecedented strength in pure iron via high-pressure induced nanotwinned martensite. <i>Materials Research Letters</i> , 2019, 7, 354-360.	4.1	22
27	In-situ investigation of the evolution of annealing twins in high purity aluminium. <i>Scripta Materialia</i> , 2018, 153, 68-72.	2.6	21
28	Twinning during $\hat{\epsilon}$ slow cooling in a zirconium alloy. <i>Scripta Materialia</i> , 2012, 67, 716-719.	2.6	20
29	Obtaining high strength and high plasticity in a Mg-3Al-1Zn plate using pre-tension and annealing treatments. <i>Journal of Alloys and Compounds</i> , 2017, 704, 406-412.	2.8	20
30	Revealing the superplastic deformation behaviors of hot rolled 0.10C5Mn2Al steel with an initial martensitic microstructure. <i>Scripta Materialia</i> , 2018, 152, 27-30.	2.6	20
31	TEM-based dislocation tomography: Challenges and opportunities. <i>Current Opinion in Solid State and Materials Science</i> , 2020, 24, 100833.	5.6	20
32	2D and 3D orientation mapping in nanostructured metals: A review. <i>Nano Materials Science</i> , 2020, 2, 50-57.	3.9	20
33	Evaluation of the reliability of twin variant analysis in Mg alloys by in situ EBSD technique. <i>Journal of Magnesium and Alloys</i> , 2019, 7, 258-263.	5.5	17
34	Effect of cold rolling on the corrosion behavior of Ta-4W alloy in sulphuric acid. <i>Corrosion Science</i> , 2020, 176, 108924.	3.0	17
35	Superplastic deformation behavior of a 19.7 vol.% $\hat{\epsilon}$ -SiCw/ZK60 composite. <i>Materials Letters</i> , 2003, 57, 1992-1996.	1.3	16
36	Managing both strength and ductility in duplex stainless steel with heterogeneous lamella structure. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018, 738, 190-193.	2.6	16

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37	Heterogeneous microstructure and enhanced mechanical properties in annealed multilayered IF steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 759, 262-271.	2.6	15
38	Gradient microstructure, recrystallization and mechanical properties of copper processed by high pressure surface rolling. <i>Journal of Materials Science and Technology</i> , 2022, 126, 182-190.	5.6	15
39	A data-driven machine learning approach to predict the hardenability curve of boron steels and assist alloy design. <i>Journal of Materials Science</i> , 2022, 57, 10755-10768.	1.7	15
40	Towards ultrastrong and ductile medium-entropy alloy through dual-phase ultrafine-grained architecture. <i>Journal of Materials Science and Technology</i> , 2022, 126, 228-236.	5.6	15
41	The synergy of boundary engineering and segregation strategy towards high strength and ductility Mg-3Gd alloy. <i>Journal of Alloys and Compounds</i> , 2020, 819, 153051.	2.8	14
42	Microstructure and strength of a tantalum-tungsten alloy after cold rolling from small to large strains. <i>Journal of Materials Science and Technology</i> , 2021, 83, 34-48.	5.6	14
43	Macroscopic subdivision of columnar grain aluminium with {001} orientations following low strain deformation. <i>Scripta Materialia</i> , 2001, 45, 1117-1122.	2.6	13
44	Microstructural evolution in Mg-3Gd during accumulative roll-bonding. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020, 772, 138763.	2.6	13
45	Evolution of orientations and deformation structures within individual grains in cold rolled columnar grained nickel. <i>Acta Materialia</i> , 2011, 59, 5451-5461.	3.8	12
46	Nanoindentation characterization of strengthening mechanism in a high strength ferrite/martensite steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 745, 144-148.	2.6	12
47	Segregation and precipitation stabilizing an ultrafine lamellar-structured Al-0.3%Cu alloy. <i>Acta Materialia</i> , 2021, 206, 116595.	3.8	12
48	Single-crystal two-dimensional material epitaxy on tailored non-single-crystal substrates. <i>Nature Communications</i> , 2022, 13, 1773.	5.8	12
49	In-Situ Synchrotron Characterization of Melting, Dissolution, and Resolidification in Lead-Free Solders. <i>Journal of Electronic Materials</i> , 2012, 41, 262-272.	1.0	11
50	<i>In-situ</i> measurement of annealing kinetics of individual bulk grains in nanostructured aluminium. <i>Philosophical Magazine</i> , 2012, 92, 3381-3391.	0.7	10
51	Effect of Recrystallization Annealing on Corrosion Behavior of Ta-4%W Alloy. <i>Materials</i> , 2019, 12, 117.	1.3	10
52	Effects of precipitates versus solute atoms on the deformation-induced grain refinement in an Al-Cu-Mg alloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020, 771, 138486.	2.6	10
53	Deformation Induced Martensitic Transformation and Its Initial Microstructure Dependence in a High Alloyed Duplex Stainless Steel. <i>Steel Research International</i> , 2017, 88, 1700169.	1.0	9
54	Unusual through-thickness variations of microstructure and texture in heavily rolled and annealed Al-0.3%Cu. <i>Materials Characterization</i> , 2020, 162, 110173.	1.9	9

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55	Deformation strain inhomogeneity in columnar grain nickel. <i>Scripta Materialia</i> , 2005, 53, 565-570.	2.6	8
56	Grain Size Effect on the Mechanical Behavior of Metastable Fe-23Cr-8.5Ni Alloy. <i>Metals</i> , 2019, 9, 734.	1.0	8
57	Termination of local strain concentration led to better tensile ductility in multilayered 2N/4N Al sheet. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020, 782, 139240.	2.6	8
58	Microstructure and mechanical properties of a 2wt% Nb bearing low carbon steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021, 826, 141957.	2.6	8
59	Interface coherency strain relaxation due to plastic deformation in single crystal Ni-base superalloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013, 568, 83-87.	2.6	7
60	Crystallographic Analysis of Nucleation at Hardness Indentations in High-Purity Aluminum. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2016, 47, 5863-5870.	1.1	7
61	Microstructure, texture and mechanical properties of sandwiched ARB6/2/6 2N Al fabricated by accumulative roll bonding. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021, 817, 141356.	2.6	7
62	Unprecedented age-hardening and its structural requirement in a severely deformed Al-Cu-Mg alloy. <i>Scripta Materialia</i> , 2022, 206, 114240.	2.6	7
63	Observation of Twin Transmission Process in Mg Alloys by In Situ EBSD. <i>Advanced Engineering Materials</i> , 2019, 21, 1801340.	1.6	6
64	Dislocation density in fine grain-size spark-plasma sintered aluminum measured using high brightness synchrotron radiation. <i>Materials Letters</i> , 2020, 269, 127653.	1.3	6
65	High Temperature Deformation Behavior and Microstructure Evolution of Low-Density Steel Fe30Mn11Al1C Micro-Alloyed with Nb and V. <i>Materials</i> , 2021, 14, 6555.	1.3	6
66	Five-parameter grain boundary character distribution of gold nanoparticles based on three dimensional orientation mapping in the TEM. <i>Scripta Materialia</i> , 2022, 214, 114677.	2.6	6
67	Prediction of Hardenability Curves for Non-Boron Steels via a Combined Machine Learning Model. <i>Materials</i> , 2022, 15, 3127.	1.3	6
68	Particle stabilization of plastic flow in nanostructured Al-1wt%Si Alloy. <i>Journal of Materials Science</i> , 2014, 49, 6667-6673.	1.7	5
69	Tensile yielding plateau in fine-grained Mg-15Gd binary alloy. <i>Materials Letters</i> , 2022, 324, 132757.	1.3	5
70	Ordered stacking faults within nanosized silicon precipitates in aluminum alloy. <i>Materials Letters</i> , 2017, 190, 225-228.	1.3	4
71	Electron tomography of dislocations in an Al-Cu-Mg alloy. <i>IOP Conference Series: Materials Science and Engineering</i> , 2017, 219, 012018.	0.3	4
72	Microstructural evolution of Ta-4%W during cold rolling. <i>IOP Conference Series: Materials Science and Engineering</i> , 2019, 580, 012041.	0.3	3

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73	Gradient Microstructure in a Gear Steel Produced by Pressurized Gas Nitriding. <i>Materials</i> , 2019, 12, 3797.	1.3	3
74	Alignment of sample position and rotation during <i>in situ</i> synchrotron X-ray micro-diffraction experiments using a Laue cross-correlation approach. <i>Journal of Applied Crystallography</i> , 2019, 52, 1119-1127.	1.9	2
75	Hot-Deformation Behavior and Processing Maps of a Low-Carbon Fe-2 wt% Nb Steel. <i>Metals</i> , 2021, 11, 1939.	1.0	2
76	Heterogeneous multi-layered IF steel with simultaneous high strength and good ductility. <i>IOP Conference Series: Materials Science and Engineering</i> , 2017, 219, 012052.	0.3	1
77	Revealing texture architecture in a surface gradient nanostructured Al-Cu-Mg alloy. <i>Philosophical Magazine Letters</i> , 2018, 98, 410-418.	0.5	1
78	Investigation of plastic yielding in near-micrometer grain size aluminum using synchrotron microdiffraction. <i>IOP Conference Series: Materials Science and Engineering</i> , 2019, 580, 012056.	0.3	1
79	Effect of heterogeneous laser surface treatment on mechanical properties of interstitial free steel. <i>IOP Conference Series: Materials Science and Engineering</i> , 2019, 580, 012029.	0.3	1
80	Faceting recrystallization nucleation in nanolaminated structure. <i>Scripta Materialia</i> , 2019, 159, 128-132.	2.6	1
81	Structural refinement and property optimization in an Fe-23Cr-8.5Ni duplex stainless steel. <i>IOP Conference Series: Materials Science and Engineering</i> , 2017, 219, 012045.	0.3	0
82	Simultaneous Enhancement of Mechanical and Magnetic Properties in Extremely-Fine Nanograined Ni-P Alloys. <i>Nanomaterials</i> , 2018, 8, 792.	1.9	0
83	Effect of Heterogeneous Surface Structure on Mechanical Properties of Interstitial-Free Steel Subjected to Laser Surface Treatment. <i>Journal of Materials Engineering and Performance</i> , 2020, 29, 6831-6839.	1.2	0
84	Heterogeneity and Homogeneity in 2/4 th Multilayered Al Fabricated by Accumulative Roll Bonding and Annealing. <i>Journal of Materials Engineering and Performance</i> , 2020, 29, 6147-6154.	1.2	0
85	A New 2.4gpa Extra-High Strength Steel with Good Ductility and High Toughness Designed by Synergistic Strengthening. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0
86	Segregation and Precipitation Stabilizing an Ultrafine Grained Al-0.3%Cu Alloy. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0