

E-Wen Huang

List of Publications by Year in descending order

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116
papers

2,114
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257429

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116
docs citations

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times ranked

1850
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#	ARTICLE	IF	CITATIONS
1	Tensile deformation micromechanisms for bulk metallic glass matrix composites: From work-hardening to softening. <i>Acta Materialia</i> , 2011, 59, 4126-4137.	7.9	257
2	Dual heterogeneous structures lead to ultrahigh strength and uniform ductility in a Co-Cr-Ni medium-entropy alloy. <i>Nature Communications</i> , 2020, 11, 2390.	12.8	244
3	Microstructural Characteristics and Mechanical Behaviors of AlCoCrFeNi High-Entropy Alloys at Ambient and Cryogenic Temperatures. <i>Materials Science Forum</i> , 0, 688, 419-425.	0.3	111
4	In-situ neutron diffraction studies on high-temperature deformation behavior in a CoCrFeMnNi high entropy alloy. <i>Intermetallics</i> , 2015, 62, 1-6.	3.9	63
5	Plastic behavior of a nickel-based alloy under monotonic-tension and low-cycle-fatigue loading. <i>International Journal of Plasticity</i> , 2008, 24, 1440-1456.	8.8	58
6	A study of lattice elasticity from low entropy metals to medium and high entropy alloys. <i>Scripta Materialia</i> , 2015, 101, 32-35.	5.2	51
7	Low-temperature shear banding for a Cu-based bulk-metallic glass. <i>Scripta Materialia</i> , 2010, 63, 871-874.	5.2	45
8	Machine-learning and high-throughput studies for high-entropy materials. <i>Materials Science and Engineering Reports</i> , 2022, 147, 100645.	31.8	44
9	Plastic anisotropy and deformation-induced phase transformation of additive manufactured stainless steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 762, 138065.	5.6	43
10	In situ high-energy X-ray studies of magnetic-field-induced phase transition in a ferromagnetic shape memory Ni-Co-Mn-In alloy. <i>Acta Materialia</i> , 2008, 56, 913-923.	7.9	42
11	Regulation of cell differentiation via synergistic self-powered stimulation and degradation behavior of a biodegradable composite piezoelectric scaffold for cartilage tissue. <i>Nano Energy</i> , 2021, 90, 106545.	16.0	42
12	Enhancement of fatigue resistance by overload-induced deformation twinning in a CoCrFeMnNi high-entropy alloy. <i>Acta Materialia</i> , 2020, 201, 412-424.	7.9	41
13	Irreversible phase transformation in a CoCrFeMnNi high entropy alloy under hydrostatic compression. <i>Materials Today Communications</i> , 2018, 14, 10-14.	1.9	37
14	Phase transformation and precipitation of an Al-Cu alloy during non-isothermal heating studied by in situ small-angle and wide-angle scattering. <i>Journal of Alloys and Compounds</i> , 2013, 579, 138-146.	5.5	36
15	Fatigue-induced reversible/irreversible structural-transformations in a Ni-based superalloy. <i>International Journal of Plasticity</i> , 2010, 26, 1124-1137.	8.8	35
16	Direct evidence on magnetic-field-induced phase transition in a NiCoMnIn ferromagnetic shape memory alloy under a stress field. <i>Applied Physics Letters</i> , 2007, 90, 101917.	3.3	34
17	Size-strain separation in diffraction line profile analysis. <i>Journal of Applied Crystallography</i> , 2018, 51, 831-843.	4.5	32
18	Study of nanoprecipitates in a nickel-based superalloy using small-angle neutron scattering and transmission electron microscopy. <i>Applied Physics Letters</i> , 2008, 93, .	3.3	30

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19	Influence of pre-deformation on the precipitation characteristics of aged non-equiatomic Co _{1.5} CrFeNi _{1.5} high entropy alloys with Ti and Al additions. <i>Journal of Alloys and Compounds</i> , 2021, 855, 157521.	5.5	29
20	Slip-System-Related Dislocation Study from In-Situ Neutron Measurements. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2008, 39, 3079-3088.	2.2	27
21	Fatigue initiation and propagation behavior in bulk-metallic glasses under a bending load. <i>Journal of Applied Physics</i> , 2010, 108, .	2.5	27
22	Neutron diffraction residual stress analysis during fatigue crack growth retardation of stainless steel. <i>International Journal of Fatigue</i> , 2017, 104, 408-415.	5.7	27
23	Element Effects on High-Entropy Alloy Vacancy and Heterogeneous Lattice Distortion Subjected to Quasi-equilibrium Heating. <i>Scientific Reports</i> , 2019, 9, 14788.	3.3	27
24	High-temperature materials for structural applications: New perspectives on high-entropy alloys, bulk metallic glasses, and nanomaterials. <i>MRS Bulletin</i> , 2019, 44, 847-853.	3.5	27
25	Lattice distortion effect on elastic anisotropy of high entropy alloys. <i>Journal of Alloys and Compounds</i> , 2020, 818, 152876.	5.5	27
26	Mechanical and Magnetic Properties of the High-Entropy Alloys for Combinatorial Approaches. <i>Crystals</i> , 2020, 10, 200.	2.2	26
27	Dynamic Strain Evolution around a Crack Tip under Steady- and Overloaded-Fatigue Conditions. <i>Metals</i> , 2015, 5, 2109-2118.	2.3	25
28	Unravelling thermal history during additive manufacturing of martensitic stainless steel. <i>Journal of Alloys and Compounds</i> , 2021, 857, 157555.	5.5	25
29	Crystal plasticity modeling and neutron diffraction measurements of a magnesium AZ31B plate: Effects of plastic anisotropy and surrounding grains. <i>Journal of the Mechanics and Physics of Solids</i> , 2020, 135, 103795.	4.8	24
30	Hardening steels by the generation of transient phase using additive manufacturing. <i>Intermetallics</i> , 2019, 109, 60-67.	3.9	23
31	A neutron-diffraction study of the low-cycle fatigue behavior of HASTELLOY® C-22HSTM alloy. <i>International Journal of Fatigue</i> , 2007, 29, 1812-1819.	5.7	19
32	Kosmotrope-like Hydration Behavior of Polyethylene Glycol from Microcalorimetry and Binding Isotherm Measurements. <i>Langmuir</i> , 2013, 29, 4259-4265.	3.5	18
33	Cyclic-Loading Induced Lattice-Strain Asymmetry in Loading and Transverse Directions. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2012, 43, 1454-1461.	2.2	17
34	Multi-scale mapping for collagen-regulated mineralization in bone remodeling of additive manufacturing porous implants. <i>Materials Chemistry and Physics</i> , 2019, 230, 83-92.	4.0	17
35	Multi-Scale Microstructure Investigation for a PM2.5 Air-Filter Efficiency Study of Non-Woven Polypropylene. <i>Quantum Beam Science</i> , 2019, 3, 20.	1.2	17
36	Microyielding of Core-Shell Crystal Dendrites in a Bulk-metallic-glass Matrix Composite. <i>Scientific Reports</i> , 2015, 4, 4394.	3.3	16

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37	Grain-size-dependent microstructure effects on cyclic deformation mechanisms in CoCrFeMnNi high-entropy-alloys. <i>Scripta Materialia</i> , 2022, 210, 114459.	5.2	16
38	Ultramicrostructural reductions in teeth: implications for dietary transition from non-avian dinosaurs to birds. <i>BMC Evolutionary Biology</i> , 2020, 20, 46.	3.2	15
39	Revealing the Precipitation Sequence with Aging Temperature in a Non-equiatomic AlCoCrFeNi High Entropy Alloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2022, 53, 314-321.	2.2	15
40	Cyclic-loading-induced accumulation of geometrically necessary dislocations near grain boundaries in an Ni-based superalloy. <i>Jom</i> , 2009, 61, 53-58.	1.9	14
41	Plastic Deformation of a Nano-Precipitate Strengthened Ni-Base Alloy Investigated by Complementary In Situ Neutron Diffraction Measurements and Molecular-Dynamics Simulations. <i>Advanced Engineering Materials</i> , 2012, 14, 902-908.	3.5	14
42	Microstructural evolution of nuclear grade graphite induced by ion irradiation at high temperature environment. <i>Journal of Nuclear Materials</i> , 2013, 434, 17-23.	2.7	14
43	On plastic anisotropy and deformation history-driven anelasticity of an extruded magnesium alloy. <i>Scripta Materialia</i> , 2020, 176, 36-41.	5.2	14
44	Enhanced age hardening effects in FCC based Co _{1.5} CrFeNi _{1.5} high entropy alloys with varying Ti and Al contents. <i>Materialia</i> , 2020, 13, 100823.	2.7	14
45	Tuning mechanical properties of electrospun piezoelectric nanofibers by heat treatment. <i>Materialia</i> , 2019, 8, 100461.	2.7	13
46	Deviatoric deformation kinetics in high entropy alloy under hydrostatic compression. <i>Journal of Alloys and Compounds</i> , 2019, 792, 116-121.	5.5	13
47	Deformations of Ti-6Al-4V additive-manufacturing-induced isotropic and anisotropic columnar structures: In situ measurements and underlying mechanisms. <i>Additive Manufacturing</i> , 2020, 35, 101322.	3.0	13
48	Unearthing principal strengthening factors tuning the additive manufactured 15-5 PH stainless steel. <i>Materials Characterization</i> , 2022, 184, 111645.	4.4	13
49	Characteristic of improved fatigue performance for Zr-based bulk metallic glass matrix composites. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013, 563, 101-105.	5.6	12
50	Fatigue induced deformation and thermodynamics evolution in a nano particle strengthened nickel base superalloy. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2016, 39, 675-685.	3.4	12
51	Influence of Zn Addition on Micro-scale Wear of Mg-xZn (x=6wt%) Alloys. <i>Tribology Letters</i> , 2017, 65, 1.	2.6	11
52	Element Effects of Mn and Ge on the Tuning of Mechanical Properties of High-Entropy Alloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2020, 51, 5023-5028.	2.2	11
53	Reversal of favorable microstructure under plastic ploughing vs. interfacial shear induced wear in aged Co _{1.5} CrFeNi _{1.5} Ti _{0.5} high-entropy alloy. <i>Wear</i> , 2021, 468-469, 203595.	3.1	11
54	Study of domain wall magnetoresistance by submicron patterned magnetic structure. <i>Journal of Applied Physics</i> , 2003, 93, 8761-8763.	2.5	11

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55	Resolving ensembled microstructural information of bulk-metallic-glass-matrix composites using synchrotron x-ray diffraction. <i>Applied Physics Letters</i> , 2010, 97, 171910.	3.3	10
56	Three-Orthogonal-Direction Stress Mapping around a Fatigue-Crack Tip Using Neutron Diffraction. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2012, 43, 2785-2791.	2.2	10
57	Resolution of structural transformation of intermediates in Al-Cu alloys during non-isothermal precipitation. <i>Journal of Materials Research</i> , 2014, 29, 874-879.	2.6	10
58	Comparing Cyclic Tension-Compression Effects on CoCrFeMnNi High-Entropy Alloy and Ni-Based Superalloy. <i>Crystals</i> , 2019, 9, 420.	2.2	10
59	Visible-Light Modulation on Lattice Dielectric Responses of a Piezoelectric Photonic Soft Material. <i>Advanced Materials</i> , 2015, 27, 7728-7733.	21.0	9
60	Control of Dopant Distribution in Yttrium-Doped Bioactive Glass for Selective Internal Radiotherapy Applications Using Spray Pyrolysis. <i>Materials</i> , 2019, 12, 986.	2.9	9
61	Quantitative evaluation of grain boundary sliding and its dependence on orientation and temperature in pure Zn. <i>Materials Letters</i> , 2019, 246, 24-27.	2.6	9
62	Investigation of Bone Growth in Additive-Manufactured Pedicle Screw Implant by Using Ti-6Al-4V and Bioactive Glass Powder Composite. <i>International Journal of Molecular Sciences</i> , 2020, 21, 7438.	4.1	9
63	Tunable Mechanical and Electrical Properties of Coaxial Electrospun Composite Nanofibers of P(VDF-TrFE) and P(VDF-TrFE-CTFE). <i>International Journal of Molecular Sciences</i> , 2021, 22, 4639.	4.1	9
64	Deformation-induced phase development in a cobalt-based superalloy during monotonic and cyclic deformation. <i>Physica B: Condensed Matter</i> , 2006, 385-386, 523-525.	2.7	8
65	Texture crossover: Trace from multiple grains to a subgrain. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2010, 528, 3-10.	5.6	8
66	Confined martensitic phase transformation kinetics and lattice dynamics in Ni-Co-Fe-Ga shape memory alloys. <i>Acta Materialia</i> , 2016, 110, 200-206.	7.9	8
67	Pentafluoropyridine functionalized novel heteroatom-doped with hierarchical porous 3D cross-linked graphene for supercapacitor applications. <i>RSC Advances</i> , 2021, 11, 26892-26907.	3.6	8
68	Nanowear Mechanisms of Mg Alloyed with Al and Y at Elevated Temperatures. <i>Tribology Letters</i> , 2020, 68, 1.	2.6	7
69	Tailoring grain sizes of the biodegradable iron-based alloys by pre-additive manufacturing microalloying. <i>Scientific Reports</i> , 2021, 11, 9610.	3.3	7
70	Aging temperature role on precipitation hardening in a non-equiatomic AlCoCrFeNiTi high-entropy alloy. <i>Materials Science and Technology</i> , 2021, 37, 1270-1279.	1.6	6
71	Tensile Response of As-Cast CoCrFeNi and CoCrFeMnNi High-Entropy Alloys. <i>Crystals</i> , 2022, 12, 157.	2.2	6
72	Fabrication and physical properties of permalloy nano-size wires. <i>Physica B: Condensed Matter</i> , 2003, 327, 247-252.	2.7	5

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73	Magnetoresistance study in NiFe semicircle-ring patterned wires. Journal of Applied Physics, 2003, 93, 7619-7621.	2.5	5
74	Thermal effects on stability of hierarchical microstructure in medium- and high-entropy alloys. Materials Chemistry and Physics, 2022, 278, 125677.	4.0	5
75	Visualizing the valence states of europium ions in Eu-doped BaAl ₂ O ₄ using X-ray nanoprobe mapping. Journal of Synchrotron Radiation, 2022, 29, 456-461.	2.4	5
76	Evolution of microstructure in a nickel-based superalloy as a function of ageing time. Philosophical Magazine Letters, 2011, 91, 483-490.	1.2	4
77	Development of crystallographic-orientation-dependent internal strains around a fatigue-crack tip during overloading and unloading. Materials Characterization, 2013, 79, 7-14.	4.4	4
78	Calcitriol exerts a mineralization-inductive effect comparable to that of vitamin C in cultured human periodontium cells. American Journal of Translational Research (discontinued), 2019, 11, 2304-2316.	0.0	4
79	Tailoring Ferrimagnetic Transition Temperatures, Coercivity Fields, and Saturation Magnetization by Modulating Mn Concentration in (CoCrFeNi) _{1-x} Mnx High-Entropy Alloys. Frontiers in Materials, 2022, 9, .	2.4	4
80	Using <i>in-situ</i> synchrotron x-ray diffraction to investigate phase transformation and lattice relaxation of a three-way piezo-phototronic soft material. Semiconductor Science and Technology, 2017, 32, 074005.	2.0	3
81	Micro-layer and Lattice Structure Effects on Impedance of Titanium Oxide Phthalocyanine. Advanced Engineering Materials, 2018, 20, 1701140.	3.5	3
82	Transient Phase-Driven Cyclic Deformation in Additively Manufactured 15-5 PH Steel. Materials, 2022, 15, 777.	2.9	3
83	Microstructure evolution in high-pressure phase transformations of CrFeNi and CoCrFeMnNi alloys. Journal of Alloys and Compounds, 2022, 918, 165383.	5.5	3
84	Magnetoresistance and magnetic force microscopy studies in Ni ₈₀ Fe ₂₀ disk- and ring-patterned wires. Journal of Applied Physics, 2003, 93, 8424-8426.	2.5	2
85	Counterion Association and Structural Conformation Change of Charged PAMAM Dendrimer in Aqueous Solutions Revealed by Small Angle Neutron Scattering. Macromolecular Symposia, 2009, 279, 65-71.	0.7	2
86	Evidence of two-length-scale kinetics of R-phase transformation by high-energy X-ray diffraction. Scripta Materialia, 2010, 62, 617-620.	5.2	2
87	A Synchrotron X-ray Study on the Wigner Effect of the Irradiated Nuclear-grade Graphite. Procedia Engineering, 2012, 36, 7-12.	1.2	2
88	PEGylation Site-Dependent Structural Heterogeneity Study of MonoPEGylated Human Parathyroid Hormone Fragment hPTH(1-34). Langmuir, 2014, 30, 11421-11427.	3.5	2
89	The combination of rolling-and-T6-treatments with Al ₂ O ₃ -reinforcing-particles effect on A6061 metal-matrix composites. Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications. 2016, 230, 233-239.	1.1	2
90	Tuning Stress in Cu Thin Films by Developing Highly (111)-Oriented Nanotwinned Structure. Journal of Electronic Materials, 2020, 49, 109-115.	2.2	2

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91	Phase Stress Partition in Gray Cast Iron Using In Situ Neutron Diffraction Measurements. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 5029-5035.	2.2	2
92	In-Situ Synchrotron SAXS and WAXS Investigation on the Deformation of Single and Coaxial Electrospun P(VDF-TrFE)-Based Nanofibers. International Journal of Molecular Sciences, 2021, 22, 12669.	4.1	2
93	Residual Strain Distribution around a Fatigue-Crack Tip Determined by Neutron Diffraction. Materials Science Forum, 0, 706-709, 1685-1689.	0.3	1
94	Sensor Selection and Integration to Improve Video Segmentation in Complex Environments. Mathematical Problems in Engineering, 2014, 2014, 1-14.	1.1	1
95	Fatigue-Crack-Growth Behavior of Two Pipeline Steels. Advanced Engineering Materials, 2016, 18, 2028-2039.	3.5	1
96	Introduction of Neutron Diffractometers for Mechanical Behavior Studies of Structural Materials. , 0, , .		1
97	Fatigue Crack-Tip Stress Mapping Using Neutron Diffraction. Korean Journal of Materials Research, 2015, 25, 690-693.	0.2	1
98	Characterization of Deformation and Wear Mechanisms During Indentation Scratching on Pure Zinc. Journal of Tribology, 2020, 142, .	1.9	1
99	Angular and field dependent magnetoresistance in Ni ₈₀ Fe ₂₀ zigzag wires. Physica B: Condensed Matter, 2003, 327, 287-291.	2.7	0
100	Magnetization reversal process of patterned Ni ₈₀ Fe ₂₀ zigzag wires. Journal of Magnetism and Magnetic Materials, 2004, 272-276, E1309-E1310.	2.3	0
101	Magnetic studies in octagon-patterned permalloy submicro-wires. Journal of Magnetism and Magnetic Materials, 2004, 272-276, 1686-1687.	2.3	0
102	A Nondestructive Study Using Lattice Plane Specific Analysis on a Nano-Precipitate Strengthened Alloy. Key Engineering Materials, 2007, 345-346, 1311-1314.	0.4	0
103	An Investigation of the Orientation-dependent Study of a Nickel-based Alloy Subjected to Deformation. Procedia Engineering, 2012, 36, 195-199.	1.2	0
104	Thermal-Effect Study on a Carbon-Carbon Composite Using Synchrotron X-Ray Measurements & Molecular Dynamics Simulation. Materials Science Forum, 0, 777, 35-39.	0.3	0
105	The Effect of Shielded Metal Arc and Gas Tungsten Arc Welding Methods on 308L Stainless Steel Weldments. Materials Science Forum, 0, 783-786, 2753-2757.	0.3	0
106	Plasticity Enhancement by Fe-Addition on NiAl Alloy: A Synchrotron X-ray Diffraction Mapping and Molecular Dynamics Simulation Study. Quantum Beam Science, 2018, 2, 18.	1.2	0
107	Effects of Texture on the High Temperature Scratch Wear Behavior in Zinc. IOP Conference Series: Materials Science and Engineering, 2020, 894, 012016.	0.6	0
108	Preface to Innovations in High-Entropy Alloys and Bulk Metallic Glasses in Honor of Peter K. Liaw. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2021, 52, 3671-3673.	2.2	0

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109	Mechanical Behavior of High-Entropy Alloys Focusing on Tensors: An in situ Neutron Diffraction Investigation From Room to Elevated Temperature. , 2022, , 454-462.		0
110	PL02 The Real Nature of Fatigue Behavior in Bulk-Metallic Glasses. The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2011, 2011.10, _PLO2-1_.	0.0	0
111	Cooling " As a "Heat Treatment" for the Mechanical Behavior of the Bulk Metallic Glass Alloys. , 0, , .		0
112	Internal Stress/Strain Analysis during Fatigue Crack Growth Retardation Using Neutron Diffraction. Korean Journal of Materials Research, 2018, 28, 398-404.	0.2	0
113	Community Structure Extraction for Social Networks. , 0, , 266-282.		0
114	Microstructural Evolution and Mechanical Properties of Non-Equiatomic (CoNi) _{74.66} Cr ₁₇ Fe ₈ C _{0.34} High-Entropy Alloy. Materials, 2022, 15, 1312.	2.9	0
115	Diffraction-based Residual Stress Mapping of a Stress Frame of Gray Iron via Vibratory Stress Relief Method. Frontiers in Materials, 2022, 9, .	2.4	0
116	Evaluation of Supercritical Carbon Dioxide Corrosion by High Temperature Oxidation Experiments and Machine Learning Models. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 0, , 1.	2.2	0