

Zhiming Li

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119
papers

5,975
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38
h-index

76
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125
ext. papers

8,297
ext. citations

7.4
avg, IF

6.86
L-index

#	Paper	IF	Citations
119	Metastable high-entropy dual-phase alloys overcome the strength-ductility trade-off. <i>Nature</i> , 2016 , 534, 227-30	50.4	1718
118	A TRIP-assisted dual-phase high-entropy alloy: Grain size and phase fraction effects on deformation behavior. <i>Acta Materialia</i> , 2017 , 131, 323-335	8.4	323
117	Corrosion behavior of an equiatomic CoCrFeMnNi high-entropy alloy compared with 304 stainless steel in sulfuric acid solution. <i>Corrosion Science</i> , 2018 , 134, 131-139	6.8	248
116	Interstitial atoms enable joint twinning and transformation induced plasticity in strong and ductile high-entropy alloys. <i>Scientific Reports</i> , 2017 , 7, 40704	4.9	207
115	Ab initio assisted design of quinary dual-phase high-entropy alloys with transformation-induced plasticity. <i>Acta Materialia</i> , 2017 , 136, 262-270	8.4	179
114	Strong and Ductile Non-equiatomic High-Entropy Alloys: Design, Processing, Microstructure, and Mechanical Properties. <i>Jom</i> , 2017 , 69, 2099-2106	2.1	150
113	Hierarchical microstructure design to tune the mechanical behavior of an interstitial TRIP-TWIP high-entropy alloy. <i>Acta Materialia</i> , 2019 , 163, 40-54	8.4	150
112	Boron doped ultrastrong and ductile high-entropy alloys. <i>Acta Materialia</i> , 2018 , 151, 366-376	8.4	139
111	Interstitial equiatomic CoCrFeMnNi high-entropy alloys: carbon content, microstructure, and compositional homogeneity effects on deformation behavior. <i>Acta Materialia</i> , 2019 , 164, 400-412	8.4	123
110	Developing a high-strength Al-Mg-Si-Sc-Zr alloy for selective laser melting: Crack-inhibiting and multiple strengthening mechanisms. <i>Acta Materialia</i> , 2020 , 193, 83-98	8.4	123
109	Bidirectional Transformation Enables Hierarchical Nanolaminate Dual-Phase High-Entropy Alloys. <i>Advanced Materials</i> , 2018 , 30, e1804727	24	110
108	In-situ SEM observation of phase transformation and twinning mechanisms in an interstitial high-entropy alloy. <i>Acta Materialia</i> , 2018 , 147, 236-246	8.4	108
107	Hydrogen enhances strength and ductility of an equiatomic high-entropy alloy. <i>Scientific Reports</i> , 2017 , 7, 9892	4.9	98
106	Enhanced strength and ductility in a friction stir processing engineered dual phase high entropy alloy. <i>Scientific Reports</i> , 2017 , 7, 16167	4.9	91
105	High-velocity deformation of AlCoCrFeNi high-entropy alloy: Remarkable resistance to shear failure. <i>Scientific Reports</i> , 2017 , 7, 42742	4.9	85
104	Effects of annealing on microstructure and mechanical properties of nano-grained titanium produced by combination of asymmetric and symmetric rolling. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2012 , 558, 309-318	5.3	74
103	Beating hydrogen with its own weapon: Nano-twin gradients enhance embrittlement resistance of a high-entropy alloy. <i>Materials Today</i> , 2018 , 21, 1003-1009	21.8	70

102	Selective laser melting enabling the hierarchically heterogeneous microstructure and excellent mechanical properties in an interstitial solute strengthened high entropy alloy. <i>Materials Research Letters</i> , 2019 , 7, 453-459	7.4	68
101	Hydrogen embrittlement of an interstitial equimolar high-entropy alloy. <i>Corrosion Science</i> , 2018 , 136, 403-408	6.8	66
100	Yield strength increase of a CoCrNi medium entropy alloy by interstitial nitrogen doping at maintained ductility. <i>Scripta Materialia</i> , 2020 , 178, 391-397	5.6	58
99	Joint contribution of transformation and twinning to the high strength-ductility combination of a FeMnCoCr high entropy alloy at cryogenic temperatures. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019 , 759, 437-447	5.3	57
98	Engineering heterostructured grains to enhance strength in a single-phase high-entropy alloy with maintained ductility. <i>Materials Research Letters</i> , 2018 , 6, 634-640	7.4	56
97	Nonbasal Slip Systems Enable a Strong and Ductile Hexagonal-Close-Packed High-Entropy Phase. <i>Physical Review Letters</i> , 2019 , 122, 075502	7.4	54
96	Influence of compositional inhomogeneity on mechanical behavior of an interstitial dual-phase high-entropy alloy. <i>Materials Chemistry and Physics</i> , 2018 , 210, 29-36	4.4	52
95	Combinatorial metallurgical synthesis and processing of high-entropy alloys. <i>Journal of Materials Research</i> , 2018 , 33, 3156-3169	2.5	51
94	On the mechanism of extraordinary strain hardening in an interstitial high-entropy alloy under cryogenic conditions. <i>Journal of Alloys and Compounds</i> , 2019 , 781, 734-743	5.7	51
93	Segregation-driven grain boundary spinodal decomposition as a pathway for phase nucleation in a high-entropy alloy. <i>Acta Materialia</i> , 2019 , 178, 1-9	8.4	50
92	Deformation-driven bidirectional transformation promotes bulk nanostructure formation in a metastable interstitial high entropy alloy. <i>Acta Materialia</i> , 2019 , 167, 23-39	8.4	46
91	A strong and ductile medium-entropy alloy resists hydrogen embrittlement and corrosion. <i>Nature Communications</i> , 2020 , 11, 3081	17.4	46
90	Unexpected cyclic stress-strain response of dual-phase high-entropy alloys induced by partial reversibility of deformation. <i>Scripta Materialia</i> , 2018 , 143, 63-67	5.6	46
89	Lüders-like deformation induced by delta-ferrite-assisted martensitic transformation in a dual-phase high-manganese steel. <i>Scripta Materialia</i> , 2012 , 67, 297-300	5.6	45
88	Short-range order strengthening in boron-doped high-entropy alloys for cryogenic applications. <i>Acta Materialia</i> , 2020 , 194, 366-377	8.4	43
87	Hydrogen effects on microstructural evolution and passive film characteristics of a duplex stainless steel. <i>Electrochemistry Communications</i> , 2017 , 79, 28-32	5.1	42
86	Yield point elongation in fine-grained titanium. <i>Materials Letters</i> , 2013 , 96, 1-4	3.3	41
85	Ultrastrong lightweight compositionally complex steels via dual-nanoprecipitation. <i>Science Advances</i> , 2020 , 6,	14.3	41

84	Correlative Microscopy Novel Methods and Their Applications to Explore 3D Chemistry and Structure of Nanoscale Lattice Defects: A Case Study in Superalloys. <i>Jom</i> , 2018 , 70, 1736-1743	2.1	40
83	Influence of carbon on the corrosion behaviour of interstitial equiatomic CoCrFeMnNi high-entropy alloys in a chlorinated concrete solution. <i>Corrosion Science</i> , 2020 , 163, 108287	6.8	39
82	Grain boundary decohesion by nanoclustering Ni and Cr separately in CrMnFeCoNi high-entropy alloys. <i>Science Advances</i> , 2019 , 5, eaay0639	14.3	38
81	On the formation of hierarchical microstructure in a Mo-doped NiCoCr medium-entropy alloy with enhanced strength-ductility synergy. <i>Scripta Materialia</i> , 2020 , 175, 1-6	5.6	37
80	Interstitial doping enhances the strength-ductility synergy in a CoCrNi medium entropy alloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020 , 781, 139242	5.3	33
79	A non-equiatomic FeNiCoCr high-entropy alloy with excellent anti-corrosion performance and strength-ductility synergy. <i>Corrosion Science</i> , 2021 , 183, 109341	6.8	32
78	Microstructure and oxidation resistance of magnetron-sputtered nanocrystalline NiCoCrAlY coatings on nickel-based superalloy. <i>Journal of Alloys and Compounds</i> , 2010 , 505, 675-679	5.7	30
77	Metastability alloy design. <i>MRS Bulletin</i> , 2019 , 44, 266-272	3.2	29
76	Influence of phase decomposition on mechanical behavior of an equiatomic CoCuFeMnNi high entropy alloy. <i>Acta Materialia</i> , 2019 , 181, 25-35	8.4	28
75	Interfacial nanophases stabilize nanotwins in high-entropy alloys. <i>Acta Materialia</i> , 2020 , 185, 218-232	8.4	27
74	A novel supersaturated medium entropy alloy with superior tensile properties and corrosion resistance. <i>Scripta Materialia</i> , 2020 , 186, 381-386	5.6	26
73	Characterization and oxidation behavior of NiCoCrAlY coating fabricated by electrophoretic deposition and vacuum heat treatment. <i>Applied Surface Science</i> , 2011 , 257, 4616-4620	6.7	25
72	Strain Rate Sensitivity of a TRIP-Assisted Dual-Phase High-Entropy Alloy. <i>Frontiers in Materials</i> , 2018 , 5,	4	24
71	In-situ observation of martensitic transformation in an interstitial metastable high-entropy alloy during cathodic hydrogen charging. <i>Scripta Materialia</i> , 2019 , 173, 56-60	5.6	23
70	Crystal-Glass High-Entropy Nanocomposites with Near Theoretical Compressive Strength and Large Deformability. <i>Advanced Materials</i> , 2020 , 32, e2002619	24	22
69	Amorphous bands induced by low temperature tension in a non-equiatomic CrMnFeCoNi alloy. <i>Acta Materialia</i> , 2020 , 188, 354-365	8.4	21
68	Interstitial effects on the incipient plasticity and dislocation behavior of a metastable high-entropy alloy: Nanoindentation experiments and statistical modeling. <i>Acta Materialia</i> , 2021 , 206, 116633	8.4	21
67	Beyond Solid Solution High-Entropy Alloys: Tailoring Magnetic Properties via Spinodal Decomposition. <i>Advanced Functional Materials</i> , 2021 , 31, 2007668	15.6	21

66	Ultrafine-grained TiNbTaZr alloy produced by ECAP at room temperature. <i>Journal of Materials Science</i> , 2014 , 49, 6656-6666	4.3	20
65	Formation mechanism of ϵ -carbides and deformation behavior in Si-alloyed FeMnAlC lightweight steels. <i>Acta Materialia</i> , 2020 , 198, 258-270	8.4	20
64	Carbon and nitrogen co-doping enhances phase stability and mechanical properties of a metastable high-entropy alloy. <i>Journal of Alloys and Compounds</i> , 2020 , 831, 154799	5.7	18
63	Influence of superalloy substrate roughness on adhesion and oxidation behavior of magnetron-sputtered NiCoCrAlY coatings. <i>Applied Surface Science</i> , 2011 , 257, 10414-10420	6.7	18
62	Ultrastrong and Ductile Soft Magnetic High-Entropy Alloys via Coherent Ordered Nanoprecipitates. <i>Advanced Materials</i> , 2021 , 33, e2102139	24	18
61	Invar effects in FeNiCo medium entropy alloys: From an Invar treasure map to alloy design. <i>Intermetallics</i> , 2019 , 111, 106520	3.5	17
60	Cyclic plasticity of an interstitial high-entropy alloy: experiments, crystal plasticity modeling, and simulations. <i>Journal of the Mechanics and Physics of Solids</i> , 2020 , 142, 103971	5	17
59	Large creep formability and strength-ductility synergy enabled by engineering dislocations in aluminum alloys. <i>International Journal of Plasticity</i> , 2020 , 134, 102774	7.6	17
58	Hydrogen resistance of a 1 GPa strong equiatomic CoCrNi medium entropy alloy. <i>Corrosion Science</i> , 2020 , 167, 108510	6.8	16
57	Hydrogen susceptibility of an interstitial equimolar high-entropy alloy revealed by in-situ electrochemical microcantilever bending test. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019 , 762, 138114	5.3	16
56	Effect of hydrogen-induced surface steps on the nanomechanical behavior of a CoCrFeMnNi high-entropy alloy revealed by in-situ electrochemical nanoindentation. <i>Intermetallics</i> , 2019 , 114, 106603	3.5	16
55	Interstitial nitrogen enhances corrosion resistance of an equiatomic CoCrNi medium-entropy alloy in sulfuric acid solution. <i>Materials Characterization</i> , 2021 , 172, 110869	3.9	16
54	Grain boundary energy effect on grain boundary segregation in an equiatomic high-entropy alloy. <i>Physical Review Materials</i> , 2020 , 4,	3.2	15
53	A novel equiaxed eutectic high-entropy alloy with excellent mechanical properties at elevated temperatures. <i>Materials Research Letters</i> , 2020 , 8, 373-382	7.4	14
52	The effects of carbon on the phase stability and mechanical properties of heat-treated FeNiMnCrAl high entropy alloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019 , 748, 59-73	5.3	13
51	Mechanical Behavior of Ultrafine-Grained Ti-6Al-4V Alloy Produced by Severe Warm Rolling: The Influence of Starting Microstructure and Reduction Ratio. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2015 , 46, 5047-5057	2.3	13
50	Effect of interstitial carbon on the evolution of early-stage irradiation damage in equi-atomic FeMnNiCoCr high-entropy alloys. <i>Journal of Applied Physics</i> , 2020 , 127, 025103	2.5	13
49	A TWIP-TRIP quinary high-entropy alloy: Tuning phase stability and microstructure for enhanced mechanical properties. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021 , 801, 140441	5.3	13

48	Enhanced strength-ductility synergy and transformation-induced plasticity of the selective laser melting fabricated 304L stainless steel. <i>Additive Manufacturing</i> , 2020 , 35, 101300	6.1	12
47	Microstructure Evolution and Mechanical Behavior of Cold-Sprayed, Bulk Nanostructured Titanium. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2014 , 45, 5017-5028	2.3	12
46	Nano-TiB ₂ reinforced ultrafine-grained pure Al produced by flux-assisted synthesis and asymmetrical rolling. <i>Journal of Materials Research</i> , 2014 , 29, 2514-2524	2.5	12
45	Impact of interstitial carbon on self-diffusion in CoCrFeMnNi high entropy alloys. <i>Scripta Materialia</i> , 2020 , 188, 264-268	5.6	12
44	Awakening the metastability of an interstitial high entropy alloy via severe deformation. <i>Scripta Materialia</i> , 2021 , 191, 96-100	5.6	12
43	Microstructure and deformation behavior of two TWIP/TRIP high entropy alloys upon grain refinement. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021 , 802, 140661	5.3	12
42	The evolution of compositional and microstructural heterogeneities in a TaMo _{0.5} ZrTi _{1.5} Al _{0.1} Si _{0.2} high entropy alloy. <i>Materials Characterization</i> , 2021 , 172, 110836	3.9	12
41	Unveiling the mechanism of abnormal magnetic behavior of FeNiCoMnCu high-entropy alloys through a joint experimental-theoretical study. <i>Physical Review Materials</i> , 2020 , 4,	3.2	11
40	Role of magnetic ordering for the design of quinary TWIP-TRIP high entropy alloys. <i>Physical Review Materials</i> , 2020 , 4,	3.2	11
39	Improving the hydrogen embrittlement resistance of a selective laser melted high-entropy alloy via modifying the cellular structures. <i>Corrosion Science</i> , 2021 , 190, 109695	6.8	11
38	EFFECTS OF HEAT-TREAT TEMPERATURE ON MICROSTRUCTURE OF ELECTRO-BRUSH PLATING Ni-P COATINGS. <i>Jinshu Xuebao/Acta Metallurgica Sinica</i> , 2010 , 46, 867-872		10
37	Face-centered tetragonal titanium hydrides in fine-grained commercial pure (grade 2) titanium. <i>Materials Letters</i> , 2013 , 105, 16-19	3.3	9
36	Nanoindentation hardness and elastic modulus of nano-grained titanium produced by asymmetric and symmetric rolling. <i>Journal of Nanoscience and Nanotechnology</i> , 2014 , 14, 7740-4	1.3	9
35	Interfacial Mechanical Behavior and Electrochemical Corrosion Characteristics of Cold-Sprayed and Hot-Rolled Titanium/Stainless-Steel Couples. <i>Advanced Engineering Materials</i> , 2016 , 18, 1240-1249	3.5	8
34	Tuning microstructures and improving oxidation resistance of Nb-Si based alloys via electron beam surface melting. <i>Corrosion Science</i> , 2020 , 163, 108281	6.8	8
33	Reactive wear protection through strong and deformable oxide nanocomposite surfaces. <i>Nature Communications</i> , 2021 , 12, 5518	17.4	8
32	Making sustainable aluminum by recycling scrap: The science of 'dirty' alloys. <i>Progress in Materials Science</i> , 2022 , 100947	42.2	8
31	High-temperature tribological properties of Ni-P alloy coatings deposited by electro-brush plating. <i>Rare Metals</i> , 2011 , 30, 669-675	5.5	7

30	Surface microstructure modification of hypereutectic Nb-Si based alloys to improve oxidation resistance without damaging fracture toughness. <i>Materials Characterization</i> , 2020 , 159, 110051	3.9	7
29	Enhancement of vacancy diffusion by C and N interstitials in the equiatomic FeMnNiCoCr high entropy alloy. <i>Acta Materialia</i> , 2021 , 215, 117093	8.4	7
28	Competitive growth of nano-lamellae Nb/Nb ₃ Si eutectics with enhanced hardness and toughness. <i>Applied Surface Science</i> , 2019 , 486, 22-27	6.7	6
27	Effects of interstitial C and N on hydrogen embrittlement behavior of non-equiatomic metastable FeMnCoCr high-entropy alloys. <i>Corrosion Science</i> , 2021 , 194, 109933	6.8	6
26	Aging induced segregation and nanoprecipitation in a severely deformed equiatomic high-entropy alloy. <i>Materials Characterization</i> , 2020 , 165, 110369	3.9	5
25	Symbiotic crystal-glass alloys via dynamic chemical partitioning. <i>Materials Today</i> , 2021 , 51, 6-6	21.8	4
24	Temperature effect on tensile behavior of an interstitial high entropy alloy: Crystal plasticity modeling. <i>International Journal of Plasticity</i> , 2022 , 150, 103201	7.6	4
23	Enhanced precipitation strengthening of multi-principal element alloys by ϵ and B ₂ -phases. <i>Materials and Design</i> , 2021 , 198, 109315	8.1	4
22	Cryogenic mechanical behavior of a TRIP-assisted dual-phase high-entropy alloy. <i>Nano Research</i> , 2021 , 10, 103201	10	4
21	3d transition-metal high-entropy Invar alloy developed by adjusting the valence-electron concentration. <i>Physical Review Materials</i> , 2021 , 5, 054401	3.2	3
20	Understanding the hydrogen effect on pop-in behavior of an equiatomic high-entropy alloy during in-situ nanoindentation. <i>Journal of Materials Science and Technology</i> , 2022 , 98, 118-122	9.1	3
19	Massive interstitial solid solution alloys achieve near-theoretical strength.. <i>Nature Communications</i> , 2022 , 13, 1102	17.4	3
18	Radiation-assisted chemical short-range order formation in high-entropy alloys. <i>Scripta Materialia</i> , 2022 , 212, 114547	5.6	2
17	A high-density non-equiatomic WTaMoNbV high-entropy alloy: Alloying behavior, microstructure and mechanical properties. <i>Journal of Alloys and Compounds</i> , 2021 , 894, 162505	5.7	2
16	The Temperature Dependence of Deformation Behaviors in High-Entropy Alloys: A Review. <i>Metals</i> , 2021 , 11, 2005	2.3	2
15	Atomistic insights on the deformation mechanisms of Co _x (CrNi) _{100-x} multicomponent alloys: The effect of Co content. <i>Computational Materials Science</i> , 2022 , 211, 111559	3.2	2
14	High-strain induced reverse martensitic transformation in an ultrafine-grained Ti-Nb-Ta-Zr alloy. <i>Philosophical Magazine Letters</i> , 2016 , 96, 189-195	1	1
13	High Temperature Wear Behaviors of Electro-Brush Plating Ni-P Coatings. <i>Advanced Materials Research</i> , 2010 , 97-101, 1506-1509	0.5	1

12	Combinatorial development of multicomponent Invar alloys via rapid alloy prototyping. <i>Materialia</i> , 2022 , 21, 101326	3.2	1
11	Interplay between eutectic and dendritic growths dominated by Si content for Nb-Si-Ti alloys via rapid solidification. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 1-20	3.3	1
10	Iron-rich High Entropy Alloys 2021 , 389-421		1
9	Displacive transformation as pathway to prevent micro-cracks induced by thermal stress in additively manufactured strong and ductile high-entropy alloys. <i>Transactions of Nonferrous Metals Society of China</i> , 2021 , 31, 1059-1073	3.3	1
8	Ordering of Primary Carbonitrides in an Austenitic Steel Revealed by Transmission Electron Microscopy and Atom Probe Tomography. <i>Materials</i> , 2018 , 11,	3.5	1
7	The effect of interstitial carbon atoms on defect evolution in high entropy alloys under helium irradiation. <i>Acta Materialia</i> , 2022 , 117955	8.4	1
6	Strengthening and dynamic recrystallization mediated by Si-alloying in a refractory high entropy alloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2022 , 832, 142480	5.3	0
5	Unveiling the role of glassy nanodomains in strength and plasticity of crystal/glass nanocomposites via atomistic simulation. <i>Journal of Applied Physics</i> , 2022 , 131, 085109	2.5	0
4	Multiple minor elements improve strength-ductility synergy of a high-entropy alloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2022 , 840, 142901	5.3	0
3	2430% Superplastic strain in a eutectic Au-Sn alloy with micrometer-sized grains maintained by spinodal-like decomposition. <i>Acta Materialia</i> , 2022 , 228, 117766	8.4	0
2	Effects of hydrogen and load frequency on the fatigue crack propagation behavior of selective laser melted Inconel 718 alloy. <i>International Journal of Fatigue</i> , 2022 , 160, 106848	5	0
1	cardiGAN: A generative adversarial network model for design and discovery of multi principal element alloys. <i>Journal of Materials Science and Technology</i> , 2022 , 125, 81-96	9.1	0