Sheng Guo

List of Publications by Year in descending order

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90 papers	10,513 citations	87723 38 h-index	51492 86 g-index
92 all docs	92 docs citations	92 times ranked	4169 citing authors

#	Article	IF	Citations
1	Effect of valence electron concentration on stability of fcc or bcc phase in high entropy alloys. Journal of Applied Physics, 2011, 109, .	1.1	1,623
2	Phase stability in high entropy alloys: Formation of solid-solution phase or amorphous phase. Progress in Natural Science: Materials International, 2011, 21, 433-446.	1.8	1,546
3	A Promising New Class of High-Temperature Alloys: Eutectic High-Entropy Alloys. Scientific Reports, 2014, 4, 6200.	1.6	998
4	Directly cast bulk eutectic and near-eutectic high entropy alloys with balanced strength and ductility in a wide temperature range. Acta Materialia, 2017, 124, 143-150.	3.8	747
5	More than entropy in high-entropy alloys: Forming solid solutions orÂamorphous phase. Intermetallics, 2013, 41, 96-103.	1.8	531
6	Promising properties and future trend of eutectic high entropy alloys. Scripta Materialia, 2020, 187, 202-209.	2.6	308
7	Ultrafine-Grained AlCoCrFeNi_{2.1}Eutectic High-Entropy Alloy. Materials Research Letters, 2016, 4, 174-179.	4.1	296
8	Alloy design for intrinsically ductile refractory high-entropy alloys. Journal of Applied Physics, 2016, 120, .	1.1	271
9	Entropy-driven phase stability and slow diffusion kinetics in an Al0.5CoCrCuFeNi high entropy alloy. Intermetallics, 2012, 31, 165-172.	1.8	252
10	Tailoring nanostructures and mechanical properties of AlCoCrFeNi2.1 eutectic high entropy alloy using thermo-mechanical processing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 675, 99-109.	2.6	252
11	Anomalous solidification microstructures in Co-free AlxCrCuFeNi2 high-entropy alloys. Journal of Alloys and Compounds, 2013, 557, 77-81.	2.8	210
12	Simultaneous Strength-Ductility Enhancement of a Nano-Lamellar AlCoCrFeNi2.1 Eutectic High Entropy Alloy by Cryo-Rolling and Annealing. Scientific Reports, 2018, 8, 3276.	1.6	209
13	Phase selection rules for cast high entropy alloys: An overview. Materials Science and Technology, 2015, 31, 1223-1230.	0.8	208
14	A new strategy to design eutectic high-entropy alloys using mixing enthalpy. Intermetallics, 2017, 91, 124-128.	1.8	203
15	Nanoscale phase separation in a fcc-based CoCrCuFeNiAl0.5 high-entropy alloy. Acta Materialia, 2015, 84, 145-152.	3.8	193
16	Phase Selection in High-Entropy Alloys: From Nonequilibrium to Equilibrium. Jom, 2014, 66, 1966-1972.	0.9	132
17	Thermally stable laser cladded CoCrCuFeNi high-entropy alloy coating with low stacking fault energy. Journal of Alloys and Compounds, 2014, 600, 210-214.	2.8	119
18	Phase stability and tensile properties of Co-free Al0.5CrCuFeNi2 high-entropy alloys. Journal of Alloys and Compounds, 2014, 584, 530-537.	2.8	116

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19	Microstructural, mechanical and electrochemical characterization of TiZrTaHfNb and Ti1.5ZrTa0.5Hf0.5Nb0.5 refractory high-entropy alloys for biomedical applications. Intermetallics, 2019, 113, 106572.	1.8	111
20	Corrosion behavior of Hf0.5Nb0.5Ta0.5Ti1.5Zr refractory high-entropy in aqueous chloride solutions. Electrochemistry Communications, 2019, 98, 63-68.	2.3	106
21	High-entropy alloys as high-temperature thermoelectric materials. Journal of Applied Physics, 2015, 118, .	1.1	105
22	Cold-rolling and recrystallization textures of a nano-lamellar AlCoCrFeNi2.1 eutectic high entropy alloy. Intermetallics, 2017, 84, 42-51.	1.8	102
23	Effect of low temperature on tensile properties of AlCoCrFeNi2.1 eutectic high entropy alloy. Materials Chemistry and Physics, 2018, 210, 207-212.	2.0	98
24	Solid solutioning in equiatomic alloys: Limit set by topological instability. Journal of Alloys and Compounds, 2014, 583, 410-413.	2.8	96
25	Effect of heat treatment on microstructure and mechanical properties of spark plasma sintered AlCoCrFeNiTi0.5 high entropy alloy. Materials Letters, 2016, 174, 53-56.	1.3	89
26	Identify the best glass forming ability criterion. Intermetallics, 2010, 18, 883-888.	1.8	80
27	Accelerated oxidation in ductile refractory high-entropy alloys. Intermetallics, 2018, 97, 58-66.	1.8	73
28	Formation of coreâ€“shell structure in high entropy alloy coating by laser cladding. Applied Surface Science, 2016, 363, 543-547.	3.1	70
29	Micromechanical characterization of casting-induced inhomogeneity in an Al0.8CoCrCuFeNi high-entropy alloy. Scripta Materialia, 2011, 64, 868-871.	2.6	69
30	Nanostructuring with Structural-Compositional Dual Heterogeneities Enhances Strength-Ductility Synergy in Eutectic High Entropy Alloy. Scientific Reports, 2019, 9, 11505.	1.6	67
31	Engineering heterogeneous microstructure by severe warm-rolling for enhancing strength-ductility synergy in eutectic high entropy alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 764, 138226.	2.6	67
32	New glass forming ability criterion derived from cooling consideration. Intermetallics, 2010, 18, 2065-2068.	1.8	62
33	Sunflower-like Solidification Microstructure in a Near-eutectic High-entropy Alloy. Materials Research Letters, 2013, 1, 228-232.	4.1	53
34	Preparing bulk ultrafine-microstructure high-entropy alloys via direct solidification. Nanoscale, 2018, 10, 1912-1919.	2.8	51
35	Aluminizing for enhanced oxidation resistance of ductile refractory high-entropy alloys. Intermetallics, 2018, 103, 40-51.	1.8	49
36	Nanoindentation characterized initial creep behavior of a high-entropy-based alloy CoFeNi. Intermetallics, 2014, 53, 183-186.	1.8	47

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37	Magnetism of CoCrFeNiZrx eutectic high-entropy alloys. Intermetallics, 2018, 93, 122-133.	1.8	46
38	Effects of mixing enthalpy and cooling rate on phase formation of AlxCoCrCuFeNi high-entropy alloys. Materialia, 2019, 6, 100292.	1.3	40
39	Influence of Aging and Thermomechanical Treatments on the Mechanical Properties of a Nanocluster-Strengthened Ferritic Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 351-359.	1.1	39
40	Application Prospects and Microstructural Features in Laser-Induced Rapidly Solidified High-Entropy Alloys. Jom, 2014, 66, 2057-2066.	0.9	39
41	Predicting solid solubility in CoCrFeNiMx (M = 4d transition metal) high-entropy alloys. Journal of Applied Physics, 2017, 121, .	1.1	38
42	Grain refinement in additively manufactured ferritic stainless steel by in situ inoculation using pre-alloyed powder. Scripta Materialia, 2021, 194, 113690.	2.6	37
43	Cooling rate effect on Young's modulus and hardness of a Zr-based metallic glass. Journal of Alloys and Compounds, 2011, 509, 3269-3273.	2.8	36
44	Strain-path controlled microstructure, texture and hardness evolution in cryo-deformed AlCoCrFeNi 2.1 eutectic high entropy alloy. Intermetallics, 2018, 97, 12-21.	1.8	31
45	Parametric Study of Amorphous High-Entropy Alloys formation from two New Perspectives: Atomic Radius Modification and Crystalline Structure of Alloying Elements. Scientific Reports, 2017, 7, 39917.	1.6	27
46	Effect of severe cold-rolling and annealing on microstructure and mechanical properties of AlCoCrFeNi_{2.1} eutectic high entropy alloy. IOP Conference Series: Materials Science and Engineering, 2017, 194, 012018.	0.3	27
47	Boron effects on the ductility of a nano-cluster-strengthened ferritic steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 855-859.	2.6	26
48	Microstructural design by severe warm-rolling for tuning mechanical properties of AlCoCrFeNi2.1 eutectic high entropy alloy. Intermetallics, 2019, 114, 106601.	1.8	26
49	Evolution of microstructure and mechanical properties during annealing of heavily rolled AlCoCrFeNi2.1 eutectic high-entropy alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 833, 142558.	2.6	26
50	Novel laser rapidly solidified medium-entropy high speed steel coatings with enhanced hot wear resistance. Journal of Alloys and Compounds, 2019, 772, 719-727.	2.8	24
51	Balancing Scattering Channels: A Panoscopic Approach toward Zero Temperature Coefficient of Resistance Using Highâ€Entropy Alloys. Advanced Materials, 2019, 31, e1805392.	11.1	24
52	Confocal fluorescence microscopy in alumina-based ceramics: Where does the signal come from?. Journal of the European Ceramic Society, 2010, 30, 641-648.	2.8	21
53	Effect of Heat Treatment on Borides Precipitation and Mechanical Properties of CoCrFeNiAl1.8Cu0.7B0.3Si0.1 High-Entropy Alloy Prepared by Arc-Melting and Laser-Cladding. Jom, 2017, 69, 2078-2083.	0.9	21
54	Development and homogeneity of microstructure and texture in a lamellar AlCoCrFeNi_{2.1}eutectic high-entropy alloy severely strained in the warm-deformation regime. Journal of Materials Research, 2019, 34, 687-699.	1.2	21

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55	Microstructural characterization of eutectic and near-eutectic AlCoCrFeNi high-entropy alloys. Journal of Alloys and Compounds, 2020, 822, 153558.	2.8	21
56	Amorphous and nanocrystalline Al82Ni10Y8 alloy powder prepared by gas atomization. Intermetallics, 2005, 13, 393-398.	1.8	19
57	Predicting the solid solubility limit in high-entropy alloys using the molecular orbital approach. Journal of Applied Physics, 2015, 118, .	1.1	19
58	Forming protective alumina scale for ductile refractory high-entropy alloys via aluminizing. Intermetallics, 2020, 123, 106838.	1.8	19
59	Effect of High Configuration Entropy and Rare Earth Addition on Boride Precipitation and Mechanical Properties of Multi-principal-Element Alloys. Journal of Materials Engineering and Performance, 2017, 26, 3750-3755.	1.2	18
60	Quantitative optical fluorescence microprobe measurements of stresses around indentations in Al2O3 and Al2O3/SiC nanocomposites: The influence of depth resolution and specimen translucency. Acta Materialia, 2011, 59, 2637-2647.	3.8	17
61	In Situ Growth of CVD Graphene Directly on Dielectric Surface toward Application. ACS Applied Electronic Materials, 2020, 2, 238-246.	2.0	17
62	High resolution optical microprobe investigation of surface grinding stresses in Al2O3 and Al2O3/SiC nanocomposites. Journal of the European Ceramic Society, 2011, 31, 97-109.	2.8	16
63	Liquid Phase Separation and the Aging Effect on Mechanical and Electrical Properties of Laser Rapidly Solidified Cu100â^'xCrx Alloys. Metals, 2015, 5, 2119-2127.	1.0	16
64	Invar effect of Fe-based bulk metallic glasses. Intermetallics, 2018, 93, 318-322.	1.8	16
65	Secondary hardening in laser rapidly solidified Fe68(MoWCrVCoNiAlCu)32 medium-entropy high-speed steel coatings. Materials and Design, 2018, 159, 224-231.	3.3	16
66	Cr3+ microspectroscopy measurements and modelling of local variations in surface grinding stresses in polycrystalline alumina. Journal of the European Ceramic Society, 2010, 30, 2533-2545.	2.8	15
67	Estimation of critical cooling rates for formation of amorphous alloys from critical sizes. Journal of Non-Crystalline Solids, 2012, 358, 2753-2758.	1.5	15
68	Phase Formation Rules. , 2016, , 21-49.		15
69	Temperature dependent load partitioning and slip mode transition in a eutectic AlCoCrFeNi<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si11.svg"><mml:msub><mml:mrow /><mml:mrow><mml:mn>2.1</mml:mn></mml:mrow></mml:msub></mml:math> high entropy alloy. Materialia, 2021, 17, 101118.	1.3	13
70	Design of corrosion-resistant high-entropy alloys through valence electron concentration and new PHACOMP. Journal of Alloys and Compounds, 2021, 883, 160787.	2.8	12
71	The Effect of Scandium on the Structure, Microstructure and Superconductivity of Equimolar Sc-Hf-Nb-Ta-Ti-Zr Refractory High-Entropy Alloys. Materials, 2022, 15, 1122.	1.3	10
72	Novel high-entropy and medium-entropy stainless steels with enhanced mechanical and anti-corrosion properties. Materials Science and Technology, 2018, 34, 572-579.	0.8	9

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73	The Growth of Graphene on Niâ€“Cu Alloy Thin Films at a Low Temperature and Its Carbon Diffusion Mechanism. Nanomaterials, 2019, 9, 1633.	1.9	9
74	Quantification of microstructure in a eutectic high entropy alloy AlCoCrFeNi_{2.1}. IOP Conference Series: Materials Science and Engineering, 2019, 580, 012039.	0.3	8
75	Alloying effect on the oxidation behavior of a ductile Al0.5Cr0.25Nb0.5Ta0.5Ti1.5 refractory high-entropy alloy. Materials Today Advances, 2020, 7, 100104.	2.5	8
76	Novel high entropy alloys as binder in cermets: From design to sintering. International Journal of Refractory Metals and Hard Materials, 2021, 99, 105592.	1.7	8
77	Anomalous thermal expansion in the deep super-cooled liquid region of a ZrCuAlAg bulk metallic glass. Materials Research Letters, 2018, 6, 121-129.	4.1	7
78	Mechanistic insights into the transformation processes in Z-phase strengthened 12% Cr steels. Materials and Design, 2018, 158, 237-247.	3.3	6
79	Processing of a new high entropy alloy: AlCrFeMoNiTi. Powder Metallurgy, 2018, 61, 258-265.	0.9	5
80	Effect of Mo on high-temperature strength of refractory complex concentrated alloys: A perspective of electronegativity difference. Journal of Alloys and Compounds, 2022, 906, 164186.	2.8	5
81	Load redistribution in eutectic high entropy alloy AlCoCrFeNi<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.svg"><mml:msub><mml:mrow /><mml:mrow><mml:mn>2.1</mml:mn></mml:mrow></mml:msub></mml:math> during high temperature deformation. Materialia, 2022, 22, 101392.	1.3	4
82	Structure and Superconductivity of Tin-Containing HfTiZrSnM (M = Cu, Fe, Nb, Ni) Medium-Entropy and High-Entropy Alloys. Materials, 2021, 14, 3953.	1.3	3
83	Electronic transport properties of the Al0.5TiZrPdCuNi alloy in the high-entropy alloy and metallic glass forms. Scientific Reports, 2022, 12, 2271.	1.6	3
84	Microstructure and texture of a severely warm-rolled and annealed AlCoCrFeNi_{2.1} eutectic high entropy alloy. Journal of Physics: Conference Series, 2019, 1270, 012054.	0.3	2
85	Effect of Fe content on type and distribution of carbides in medium-entropy high-speed steels. Tungsten, 2023, 5, 189-197.	2.0	2
86	Editorial: Dual-Phase Materials in the Medium and High Entropy Alloy Systems Al-Cr-Fe-Ni and Al-Co-Cr-Fe-Ni. Frontiers in Materials, 2021, 8, .	1.2	1
87	Microstructural evolution of Alâ€“Niâ€“Y powders with different sizes. International Journal of Materials Research, 2005, 96, 83-88.	0.8	0
88	Magnetism in CoCrFeNiZrx eutectic high-entropy alloys: the influence of microstructure on the properties of a multiphase HEA. , 0, , .		0
89	Benefits of the Selection and Use of High Entropy Alloys for High-Temperature Thermoelectric Applications. , 2020, , 383-410.		0
90	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>Al</mml:mi><mml:mprescripts /><mml:none /><mml:mn>27</mml:mn></mml:mmultiscripts></mml:math> NMR local study of the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Al</mml:mi><mml:mrow><mml:mn>0.5</mml:m alloy in high-entropy alloy and metallic glass forms. Physical Review B, 2022, 105, .	1.1	0