

Wei Xiong

List of Publications by Year in descending order

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84
papers

2,610
citations

279487

23
h-index

205818

48
g-index

87
all docs

87
docs citations

87
times ranked

2650
citing authors

#	ARTICLE	IF	CITATIONS
1	A high-entropy alloy with hierarchical nanoprecipitates and ultrahigh strength. <i>Science Advances</i> , 2018, 4, eaat8712.	4.7	247
2	Grain Structure Control of Additively Manufactured Metallic Materials. <i>Materials</i> , 2017, 10, 1260.	1.3	223
3	Characterization of nano-scale oxides in austenitic stainless steel processed by powder bed fusion. <i>Scripta Materialia</i> , 2018, 155, 104-108.	2.6	220
4	Linking process, structure, property, and performance for metal-based additive manufacturing: computational approaches with experimental support. <i>Computational Mechanics</i> , 2016, 57, 583-610.	2.2	190
5	Phase Equilibria and Thermodynamic Properties in the Fe-Cr System. <i>Critical Reviews in Solid State and Materials Sciences</i> , 2010, 35, 125-152.	6.8	172
6	An improved thermodynamic modeling of the Fe-Cr system down to zero kelvin coupled with key experiments. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2011, 35, 355-366.	0.7	141
7	Correlation and relativistic effects in U metal and U-Zr alloy: Validation of <i>ab initio</i> approaches. <i>Physical Review B</i> , 2013, 88, .	1.1	74
8	Magnetic phase diagram of the Fe-Ni system. <i>Acta Materialia</i> , 2011, 59, 521-530.	3.8	73
9	Thermodynamic modeling of the U-Zr system - A revisit. <i>Journal of Nuclear Materials</i> , 2013, 443, 331-341.	1.3	60
10	Thermodynamic assessment of the Mo-Nb-Ta system. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2004, 28, 133-140.	0.7	56
11	Thermodynamic modelling of crystalline unary phases. <i>Physica Status Solidi (B): Basic Research</i> , 2014, 251, 14-32.	0.7	55
12	Thermodynamically consistent microstructure prediction of additively manufactured materials. <i>Computational Mechanics</i> , 2016, 57, 359-370.	2.2	54
13	An improved magnetic model for thermodynamic modeling. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2012, 39, 11-20.	0.7	53
14	Cybermaterials: materials by design and accelerated insertion of materials. <i>Npj Computational Materials</i> , 2016, 2, .	3.5	53
15	Thermodynamic re-assessment of the Al-Co-W system. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2017, 59, 112-130.	0.7	52
16	Integrated computational materials design for high-performance alloys. <i>MRS Bulletin</i> , 2015, 40, 1035-1044.	1.7	50
17	Influence of synthesis method on microstructure and mechanical behavior of Co-free AlCrFeNi medium-entropy alloy. <i>Intermetallics</i> , 2019, 108, 45-54.	1.8	48
18	Experimental investigation and thermodynamic modeling of the ternary Al-Cu-Fe system. <i>Journal of Materials Research</i> , 2009, 24, 3154-3164.	1.2	45

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19	Thermodynamic investigation of the galvanizing systems, I: Refinement of the thermodynamic description for the Fe-Zn system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2009, 33, 433-440.	0.7	44
20	Thermodynamic modeling of the V-Si system supported by key experiments. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2008, 32, 320-325.	0.7	40
21	Thermodynamic models of low-temperature Mn-Ni-Si precipitation in reactor pressure vessel steels. MRS Communications, 2014, 4, 101-105.	0.8	31
22	Mean-field polycrystal plasticity modeling with grain size and shape effects for laser additive manufactured FCC metals. International Journal of Solids and Structures, 2017, 112, 35-42.	1.3	29
23	Reassessment of the Ce-Ni binary system supported by key experiments and ab initio calculations. Intermetallics, 2007, 15, 1401-1408.	1.8	24
24	A new approach to establish both stable and metastable phase equilibria for fcc ordered/disordered phase transition: application to the Al-Ni and Ni-Si systems. Materials Chemistry and Physics, 2012, 135, 94-105.	2.0	23
25	Rapid Synthesis and Sintering of Metals from Powders. Advanced Science, 2021, 8, e2004229.	5.6	23
26	Construction of the Al-Ni-Si phase diagram over the whole composition and temperature ranges: thermodynamic modeling supported by key experiments and first-principles calculations. International Journal of Materials Research, 2008, 99, 598-612.	0.1	21
27	Uncertainty quantification and composition optimization for alloy additive manufacturing through a CALPHAD-based ICME framework. Npj Computational Materials, 2020, 6, .	3.5	20
28	Stacking fault energy prediction for austenitic steels: thermodynamic modeling vs. machine learning. Science and Technology of Advanced Materials, 2020, 21, 626-634.	2.8	18
29	A new thermodynamic modeling of the Ti-V system including the metastable β' phase. Intermetallics, 2020, 122, 106791.	1.8	18
30	Thermodynamic investigation of the galvanizing systems, II: Thermodynamic evaluation of the Ni-Zn system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2011, 35, 276-283.	0.7	17
31	Direct atom probe tomography observations of concentration fluctuations in Fe-Cr solid solution. Scripta Materialia, 2015, 98, 13-15.	2.6	17
32	Effect of solution treatment on spinodal decomposition during aging of an Fe-46.5 at.% Cr alloy. Journal of Materials Science, 2017, 52, 326-335.	1.7	17
33	Experimental investigation of the Al-Ce-Ni system at 800°C. Intermetallics, 2008, 16, 432-439.	1.8	16
34	Phase equilibria of the Fe-Ni-Si system at 850°C. Journal of Alloys and Compounds, 2009, 481, 509-514.	2.8	16
35	Elastic and thermodynamic properties of the Ni-B system studied by first-principles calculations and experimental measurements. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2010, 34, 245-251.	0.7	15
36	A comparative analysis of Inconel 718 made by additive manufacturing and suction casting: Microstructure evolution in homogenization. Additive Manufacturing, 2020, 36, 101404.	1.7	15

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37	Integration of Processing and Microstructure Models for Non-Equilibrium Solidification in Additive Manufacturing. <i>Metals</i> , 2021, 11, 570.	1.0	15
38	Impact of homogenization on microstructure-property relationships of Inconel 718 alloy prepared by laser powder bed fusion. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021, 826, 141973.	2.6	15
39	Interfacial characteristics of P91 steel - Inconel 740H bimetallic structure fabricated using wire-arc additive manufacturing. <i>Journal of Materials Processing Technology</i> , 2022, 300, 117396.	3.1	15
40	Investigation of Spinodal Decomposition in Fe-Cr Alloys: CALPHAD Modeling and Phase Field Simulation. <i>Solid State Phenomena</i> , 0, 172-174, 1060-1065.	0.3	14
41	A Discrete Dendrite Dynamics Model for Epitaxial Columnar Grain Growth in Metal Additive Manufacturing with Application to Inconel. <i>Additive Manufacturing</i> , 2020, 36, 101611.	1.7	14
42	A new high-throughput method using additive manufacturing for alloy design and heat treatment optimization. <i>Materialia</i> , 2020, 13, 100835.	1.3	14
43	Post-heat treatment design for high-strength low-alloy steels processed by laser powder bed fusion. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020, 788, 139531.	2.6	14
44	Reaction Scheme and Liquidus Surface in the Al-Rich Section of the Al-Cr-Ni System. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2008, 39, 2363-2369.	1.1	13
45	Thermodynamic modeling of the Fe-Zn system using exponential temperature dependence for the excess Gibbs energy. <i>Journal of Mining and Metallurgy, Section B: Metallurgy</i> , 2011, 47, 1-10.	0.3	13
46	An evaluation of the Mn-Ga system: Phase diagram, crystal structure, magnetism, and thermodynamic properties. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2020, 68, 101722.	0.7	12
47	Thermodynamic Investigation of New High-Strength Low-Alloy Steels with Heusler Phase Strengthening for Welding and Additive Manufacturing: High-Throughput CALPHAD Calculations and Key Experiments for Database Verification. <i>Journal of Phase Equilibria and Diffusion</i> , 2020, 41, 804-818.	0.5	12
48	Wire-arc additive manufacturing and post-heat treatment optimization on microstructure and mechanical properties of Grade 91 steel. <i>Additive Manufacturing</i> , 2021, 37, 101734.	1.7	12
49	Experimental study of the Be-Si phase diagram. <i>Journal of Materials Science</i> , 2006, 41, 2525-2528.	1.7	11
50	Thermodynamic reassessment of the Cu-Mg-Ni system with brief comments on the thermodynamic modeling of the sub-systems. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2008, 32, 675-685.	0.7	11
51	Phase equilibria of the Al-Ni-Zn system at 340°C. <i>International Journal of Materials Research</i> , 2008, 99, 644-649.	0.1	11
52	CALPHAD modeling based on Gibbs energy functions from zero kevin and improved magnetic model: A case study on the Cr-Ni system. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2021, 73, 102268.	0.7	11
53	Cyclic re-austenitization of copper-bearing high-strength low-alloy steels fabricated by laser powder bed fusion. <i>Materials Characterization</i> , 2020, 166, 110437.	1.9	10
54	Reassessment of the Ni-B system supported by key experiments and first-principles calculation. <i>International Journal of Materials Research</i> , 2009, 100, 59-67.	0.1	9

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55	Thermodynamic evaluation of the Np-Zr system using CALPHAD and ab initio methods. Journal of Nuclear Materials, 2014, 452, 569-577.	1.3	9
56	Simulation-aided constitutive law development – Assessment of low triaxiality void nucleation models via extended finite element method. Journal of the Mechanics and Physics of Solids, 2017, 102, 30-45.	2.3	9
57	Investigation on Phase Stability of Al _x Co _{0.2} Cr _{0.2} Ni _{0.2} Ti _{0.4} High Entropy Alloys. Journal of Phase Equilibria and Diffusion, 2018, 39, 610-622.	0.5	9
58	Enhanced Resistance to Irradiation Induced Ferritic Transformation in Nanostructured Austenitic Steels. Materialia, 2020, 13, 100806.	1.3	9
59	Phase transformations and mechanical behavior in a non-equiatomic Ti ₁₀ Fe ₃₀ Co ₃₀ Ni ₃₀ medium-entropy alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 832, 142429.	2.6	8
60	Thermodynamic Assessment of the Cu-B System Supported by Key Experiment and First-Principles Calculations. Journal of Phase Equilibria and Diffusion, 2009, 30, 480-486.	0.5	7
61	Phase Transformations During Homogenization of Inconel 718 Alloy Fabricated by Suction Casting and Laser Powder Bed Fusion: A CALPHAD Case Study Evaluating Different Homogenization Models. Journal of Phase Equilibria and Diffusion, 2021, 42, 28-41.	0.5	7
62	Phase transformations during continuous cooling in Inconel 718 alloys manufactured by laser powder bed fusion and suction casting. Materials Characterization, 2022, 185, 111764.	1.9	7
63	Target-Sintering of Single-Phase Bulk Intermetallics via a Fast-Heating-Induced Rapid Interdiffusion Mechanism. , 2022, 4, 480-486.		6
64	CALPHAD-Based Integrated Computational Materials Engineering Research for Materials Genomic Design. Jom, 2015, 67, 1864-1865.	0.9	5
65	Effect of Multiple Repair Welding on Crack Susceptibility and Mechanical Properties of Inconel 718 Alloy Casting. Journal of Materials Engineering and Performance, 2022, 31, 254-261.	1.2	5
66	Carbon – Tungsten – Zirconium. Landolt-Börnstein - Group IV Physical Chemistry, 2010, , 31-47.	0.0	4
67	Martensite Start Temperature Predictor for Steels Using Ensemble Data Mining. , 2019, , .		4
68	Introducing Heusler intermetallics for synergic effect of grain refinement and precipitation strengthening in high-strength low-alloy steels. Journal of Alloys and Compounds, 2022, 904, 163885.	2.8	4
69	Iron – Silicon – Zirconium. Landolt-Börnstein - Group IV Physical Chemistry, 2009, , 605-620.	0.0	3
70	Phase Stability and Microhardness of the Al _x Cr _{2-x} CoFeNi High-Entropy Alloys. Journal of Phase Equilibria and Diffusion, 2021, 42, 379-388.	0.5	3
71	Determination of Location-Specific Solidification Cracking Susceptibility for a Mixed Dissimilar Alloy Processed by Wire-Arc Additive Manufacturing. Metals, 2022, 12, 284.	1.0	3
72	3D Analysis of Phase Separation in Ferritic Stainless Steels. , 2012, , 221-226.		2

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73	Effects of Magnetic Abrasive Finishing on Microstructure and Mechanical Properties of Inconel 718 Processed by Laser Powder Bed Fusion. Journal of Manufacturing and Materials Processing, 2022, 6, 43.	1.0	2
74	Thermal Conductivity Determination of Ga-In Alloys for Thermal Interface Materials Design. Thermo, 2022, 2, 1-13.	0.6	2
75	Quantitative Texture Prediction of Epitaxial Columnar Grains in Alloy 718 Processed by Additive Manufacturing. Minerals, Metals and Materials Series, 2018, , 749-755.	0.3	1
76	Effect of solution treatment on micropore and mechanical properties of DD6 superalloy. Materials Science and Technology, 2020, 36, 1980-1987.	0.8	1
77	Influence of long-term aging on microstructural stability and performance of DD6 superalloy. Materials Science and Technology, 2021, 37, 607-615.	0.8	1
78	Functionally Graded Alloys from 316 Stainless Steel to Inconel 718 by Powder-Based Laser Direct Energy Deposition. Minerals, Metals and Materials Series, 2022, , 304-312.	0.3	1
79	Ce-Ru-Si (Cerium - Ruthenium - Silicon). , 0, , 1-9.		0
80	N-Ti-V (Nitrogen - Titanium - Vanadium). Landolt-Börnstein - Group IV Physical Chemistry, 2006, , 1-10.	0.0	0
81	Iron “ Silicon “ Titanium. Landolt-Börnstein - Group IV Physical Chemistry, 2009, , 555-578.	0.0	0
82	3D Analysis of Phase Separation in Ferritic Stainless Steels. , 0, , 221-226.		0
83	Cu-Ga-Pd (Copper - Gallium - Palladium). , 0, , 1-12.		0
84	Cu-Pd-Pt (Copper - Palladium - Platinum). , 0, , 1-8.		0