Jiawei Mi

List of Publications by Year
in descending order

58	2,070	257450	233421
papers	citations	24 h-index	45 g-index

59	59	59	1149
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Non-destructive testing and evaluation of composite materials/structures: A state-of-the-art review. Advances in Mechanical Engineering, 2020, 12, 168781402091376.	1.6	231
2	A quantitative study of solute diffusion field effects on heterogeneous nucleation and the grain size of alloys. Acta Materialia, 2011, 59, 2135-2144.	7.9	166
3	A synchrotron X-radiography study of the fragmentation and refinement of primary intermetallic particles in an Al-35 Cu alloy induced by ultrasonic melt processing. Acta Materialia, 2017, 141, 142-153.	7.9	131
4	Fundamental studies of ultrasonic melt processing. Ultrasonics Sonochemistry, 2019, 52, 455-467.	8.2	127
5	A High-Speed Imaging and Modeling Study of Dendrite Fragmentation Caused by Ultrasonic Cavitation. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 3755-3766.	2.2	118
6	Ultrafast synchrotron X-ray imaging studies of microstructure fragmentation in solidification under ultrasound. Acta Materialia, 2018, 144, 505-515.	7.9	112
7	A refining mechanism of primary Al3Ti intermetallic particles byÂultrasonic treatment in the liquid state. Acta Materialia, 2016, 116, 354-363.	7.9	109
8	In situ observation of ultrasonic cavitation-induced fragmentation of the primary crystals formed in Al alloys. Ultrasonics Sonochemistry, 2017, 39, 66-76.	8.2	86
9	Ultrasonic exfoliation of graphene in water: A key parameter study. Carbon, 2020, 168, 737-747.	10.3	76
10	In situ high speed imaging study and modelling of the fatigue fragmentation of dendritic structures in ultrasonic fields. Acta Materialia, 2019, 165, 388-397.	7.9	58
11	High-Speed Synchrotron X-ray Imaging Studies of the Ultrasound Shockwave and Enhanced Flow during Metal Solidification Processes. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2015, 46, 2851-2861.	2.2	53
12	Effect of ultrasonic melt treatment on the refinement of primary Al3Ti intermetallic in an Alâ€“0.4Ti alloy. Journal of Crystal Growth, 2016, 435, 24-30.	1.5	53
13	The onset of plasticity of a Zr-based bulk metallic glass. International Journal of Plasticity, 2014, 60, 87-100.	8.8	52
14	3D characterisation of the Fe-rich intermetallic phases in recycled Al alloys by synchrotron X-ray microtomography and skeletonisation. Scripta Materialia, 2018, 146, 321-326.	5.2	52
15	Phase Field Simulation of Binary Alloy Dendrite Growth Under Thermal- and Forced-Flow Fields: An Implementation of the Parallelâ€“Multigrid Approach. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2013, 44, 924-937.	2.1	47
16	In Situ Synchrotron X-ray Study of Ultrasound Cavitation and Its Effect on Solidification Microstructures. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2015, 46, 1615-1619.	2.1	41
17	Modelling the shape and thermal dynamics of Ni superalloy rings during spray forming Part 1: Shape modelling â€“ Droplet deposition, splashing and redeposition. Acta Materialia, 2008, 56, 1588-1596.	7.9	38
18	Synchrotron X-ray imaging and ultrafast tomography in situ study of the fragmentation and growth dynamics of dendritic microstructures in solidification under ultrasound. Acta Materialia, 2021, 209, 116796.	7.9	36

#	Article	IF	Citations
19	New insights into sono-exfoliation mechanisms of graphite: In situ high-speed imaging studies and acoustic measurements. Materials Today, 2021, 49, 10-22.	14.2	36
20	An implicit parallel multigrid computing scheme to solve coupled thermal-solute phase-field equations for dendrite evolution. Journal of Computational Physics, 2012, 231, 1781-1796.	3.8	35
21	Phase field study of the tip operating state of a freely growing dendrite against convection using a novel parallel multigrid approach. Journal of Computational Physics, 2014, 257, 278-297.	3.8	35
22	Modelling the shape and thermal dynamics of Ni superalloy rings during spray forming. Part 2: Thermal modelling â€“ Heat flow and solidification. Acta Materialia, 2008, 56, 1597-1608.	7.9	33
23	Multiphysics modelling of the spray forming process. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 477, 2-8.	5.6	28
24	The tilt casting process. International Journal of Cast Metals Research, 2002, 14, 325-334.	1.0	25
25	Environment friendly dual-frequency ultrasonic exfoliation of few-layer graphene. Carbon, 2021, 185, 536-545.	10.3	20
26	Ultrasound cavitation induced nucleation in metal solidification: An analytical model and validation by real-time experiments. Ultrasonics Sonochemistry, 2021, 80, 105832.	8.2	20
27	In-situ synchrotron X-ray radiography observation of primary Al2Cu intermetallic growth on fragments of aluminium oxide film. Materials Letters, 2018, 213, 303-305.	2.6	19
28	In situ study of the evolution of atomic strain of bulk metallic glass and its effects on shear band formation. Scripta Materialia, 2013, 69, 207-210.	5.2	18
29	Understanding the deformation mechanism of individual phases of a ZrTi-based bulk metallic glass matrix composite using in situ diffraction and imaging methods. Applied Physics Letters, 2014, 104, 031912.	3.3	18
30	Solidification of Al Alloys Under Electromagnetic Pulses and Characterization of the 3D Microstructures Using Synchrotron X-ray Tomography. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2015, 46, 2908-2915.	2.2	18
31	Multiscale characterization of the nucleation and 3D structure of Al3Sc phases using electron microscopy and synchrotron X-ray tomography. Materials Characterization, 2020, 164, 110353.	4.4	18
32	Design and Characterisation of Metallic Glassy Alloys of High Neutron Shielding Capability. Scientific Reports, 2016, 6, 36998.	3.3	15
33	Ultrafast synchrotron X-ray imaging and multiphysics modelling of liquid phase fatigue exfoliation of graphite under ultrasound. Carbon, 2022, 186, 227-237.	10.3	14
34	In-situ multiscale shear failure of a bistable composite tape-spring. Composites Science and Technology, 2020, 200, 108348.	7.8	13
35	Ab initio simulation: The correlation between the local melt structure and segregation behavior of Fe, V, Ti and Si in liquid Al. Computational Materials Science, 2015, 109, 41-48.	3.0	11
36	Multiscale characterization of the 3D network structure of metal carbides in a Ni superalloy by synchrotron X-ray microtomography and ptychography. Scripta Materialia, 2021, 193, 71-76.	5.2	11

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37	RICH TOMOGRAPHY TECHNIQUES FOR THE ANALYSIS OF MICROSTRUCTURE AND DEFORMATION. International Journal of Computational Methods, 2014, 11, 1343006.	1.3	10
38	Modelling and neutron diffraction characterization of the interfacial bonding of spray formed dissimilar steels. Acta Materialia, 2018, 155, 318-330.	7.9	10
39	CO2 capture using mesocellular siliceous foam (MCF)-supported CaO. Journal of the Energy Institute, 2019, 92, 1591-1598.	5.3	10
40	Characterization of the residual stresses in spray-formed steels using neutron diffraction. Scripta Materialia, 2015, 100, 82-85.	5.2	8
41	Characterization of Ultrasonic Bubble Clouds in A Liquid Metal by Synchrotron X-ray High Speed Imaging and Statistical Analysis. Materials, 2020, 13, 44.	2.9	8
42	Multi-scale Characterisation of the 3D Microstructure of a Thermally-Shocked Bulk Metallic Glass Matrix Composite. Scientific Reports, 2016, 6, 18545.	3.3	7
43	Characterization of the Convoluted 3D Intermetallic Phases in a Recycled Al Alloy by Synchrotron X-ray Tomography and Machine Learning. Acta Metallurgica Sinica (English Letters), 2022, 35, 115-123.	2.9	7
44	Modelling the Electromagnetic Separation of Non-metallic Particles from Liquid Metal Flowing through a Two-stage Multichannel. ISIJ International, 2011, 51, 21-26.	1.4	6
45	Data and videos for ultrafast synchrotron X-ray imaging studies of metal solidification under ultrasound. Data in Brief, 2018, 17, 837-841.	1.0	5
46	Numerical and physical simulation of rapid microstructural evolution of gas atomised Ni superalloy powders. Materials and Design, 2017, 117, 157-167.	7.0	4
47	In Situ Studies of the Solidification Dynamics of Metal Alloys. Springer Series in Materials Science, 2018, , 19-74.	0.6	4
48	A novel electromagnetic apparatus for in-situ synchrotron X-ray imaging study of the separation of phases in metal solidification. HardwareX, 2020, 7, e00104.	2.2	4
49	Effect of Temperature and Acoustic Pressure During Ultrasound Liquid-Phase Processing of Graphite in Water. Jom, 2021, 73, 3745-3752.	1.9	4
50	Microstructure and property development in spray formed and extruded Al-Mg-Li-Zr alloys for aerospace and autosport applications. Materialwissenschaft Und Werkstofftechnik, 2010, 41, 562-567.	0.9	3
51	An Alâ€“Siâ€“Ti hierarchical metalâ€“metal composite manufactured by co-spray forming. Journal of Materials Processing Technology, 2011, 211, 2045-2049.	6.3	3
52	3D Phase Field Modeling of Multi-Dendrites Evolution in Solidification and Validation by Synchrotron X-ray Tomography. Materials, 2021, 14, 520.	2.9	2
53	Pulse External Fields Processing of Metal Alloys. Springer Series in Materials Science, 2018, , 243-275.	0.6	1
54	Synchrotron x-ray total scattering and modeling study of high-pressure-induced inhomogeneous atom reconfiguration in an equiatomic Zr50Cu50 metallic glassy alloy. Physical Review B, 2022, 105, .	3.2	1

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55	In Situ Observation of Fragmentation of Primary Crystals by Ultrasonic Cavitation in Water. Minerals, Metals and Materials Series, 2017, , 213-219.	0.4	0
56	Understanding the Highly Dynamic Phenomena in Ultrasonic Melt Processing by Ultrafast Synchrotron X-ray Imaging. Minerals, Metals and Materials Series, 2019, , 1539-1544.	0.4	0
57	Synchrotron X-Ray Real-Time Studies of the Nucleation and Growth of Intermetallic Phases in Solidification. Minerals, Metals and Materials Series, 2019, , 65-71.	0.4	0
58	The correlation between X-ray scattering structure factor and shear bands density of a metallic glass and a composite. Materials Letters, 2021, 304, 130727.	2.6	0