

Sudarsanam Babu

List of Publications by Year in descending order

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275
papers

14,200
citations

19636

61
h-index

26591

107
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286
all docs

286
docs citations

286
times ranked

8403
citing authors

#	ARTICLE	IF	CITATIONS
1	The metallurgy and processing science of metal additive manufacturing. <i>International Materials Reviews</i> , 2016, 61, 315-360.	9.4	1,706
2	Site specific control of crystallographic grain orientation through electron beam additive manufacturing. <i>Materials Science and Technology</i> , 2015, 31, 931-938.	0.8	424
3	Numerical modeling of heat-transfer and the influence of process parameters on tailoring the grain morphology of IN718 in electron beam additive manufacturing. <i>Acta Materialia</i> , 2016, 112, 303-314.	3.8	385
4	Atomic scale observations of bainite transformation in a high carbon high silicon steel. <i>Acta Materialia</i> , 2007, 55, 381-390.	3.8	307
5	The mechanism of acicular ferrite in weld deposits. <i>Current Opinion in Solid State and Materials Science</i> , 2004, 8, 267-278.	5.6	264
6	In situ observations of lattice expansion and transformation rates of β and β' phases in Ti-6Al-4V. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2005, 391, 104-113.	2.6	221
7	Comparison of Residual Stresses in Inconel 718 Simple Parts Made by Electron Beam Melting and Direct Laser Metal Sintering. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2015, 46, 1419-1432.	1.1	220
8	Phase transformation dynamics during welding of Ti-6Al-4V. <i>Journal of Applied Physics</i> , 2004, 95, 8327-8339.	1.1	214
9	In-situ observations of lattice parameter fluctuations in austenite and transformation to bainite. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2005, 36, 3281-3289.	1.1	207
10	Rationalization of Microstructure Heterogeneity in INCONEL 718 Builds Made by the Direct Laser Additive Manufacturing Process. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2014, 45, 4470-4483.	1.1	191
11	Welding: Solidification and microstructure. <i>Jom</i> , 2003, 55, 14-20.	0.9	181
12	Application of high velocity impact welding at varied different length scales. <i>Journal of Materials Processing Technology</i> , 2011, 211, 944-952.	3.1	176
13	Thermal effects on microstructural heterogeneity of Inconel 718 materials fabricated by electron beam melting. <i>Journal of Materials Research</i> , 2014, 29, 1920-1930.	1.2	170
14	Building digital twins of 3D printing machines. <i>Scripta Materialia</i> , 2017, 135, 119-124.	2.6	170
15	Localized melt-scan strategy for site specific control of grain size and primary dendrite arm spacing in electron beam additive manufacturing. <i>Acta Materialia</i> , 2017, 140, 375-387.	3.8	160
16	Fusion and friction stir welding of aluminum-metal-matrix composites. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2005, 36, 3237-3247.	1.1	156
17	Powder bed binder jet 3D printing of Inconel 718: Densification, microstructural evolution and challenges. <i>Current Opinion in Solid State and Materials Science</i> , 2017, 21, 207-218.	5.6	153
18	Characterization of interfacial microstructures in 3003 aluminum alloy blocks fabricated by ultrasonic additive manufacturing. <i>Acta Materialia</i> , 2010, 58, 4305-4315.	3.8	147

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19	Identification of the partitioning characteristics of ruthenium in single crystal superalloys using atom probe tomography. <i>Scripta Materialia</i> , 2004, 51, 327-331.	2.6	146
20	Characterization of the microstructure evolution in a nickel base superalloy during continuous cooling conditions. <i>Acta Materialia</i> , 2001, 49, 4149-4160.	3.8	135
21	Evaluation of an Al-Ce alloy for laser additive manufacturing. <i>Acta Materialia</i> , 2017, 126, 507-519.	3.8	133
22	Additive Manufacturing of Nickel Superalloys: Opportunities for Innovation and Challenges Related to Qualification. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018, 49, 3764-3780.	1.1	129
23	Effect of ultrasonic welding parameters on microstructure and mechanical properties of dissimilar joints. <i>Materials & Design</i> , 2014, 55, 263-273.	5.1	127
24	Time-resolved X-ray diffraction investigation of primary weld solidification in Fe-C-Al-Mn steel welds. <i>Acta Materialia</i> , 2002, 50, 4763-4781.	3.8	125
25	Redistribution of alloying elements during tempering of a nanocrystalline steel. <i>Acta Materialia</i> , 2008, 56, 188-199.	3.8	120
26	Computational modeling of residual stress formation during the electron beam melting process for Inconel 718. <i>Additive Manufacturing</i> , 2015, 7, 83-91.	1.7	119
27	Bonding characteristics during very high power ultrasonic additive manufacturing of copper. <i>Scripta Materialia</i> , 2010, 62, 560-563.	2.6	115
28	Empirical model of effects of pressure and temperature on electrical contact resistance of metals. <i>Science and Technology of Welding and Joining</i> , 2001, 6, 126-132.	1.5	113
29	Effect of Fluid Convection on Dendrite Arm Spacing in Laser Deposition. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2014, 45, 1520-1529.	1.0	111
30	Mechanism of weld formation during very-high-power ultrasonic additive manufacturing of Al alloy 6061. <i>Acta Materialia</i> , 2014, 74, 234-243.	3.8	110
31	Recyclability Study on Inconel 718 and Ti-6Al-4V Powders for Use in Electron Beam Melting. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2016, 47, 754-762.	1.0	108
32	Three-dimensional atom probe analysis of carbon distribution in low-temperature bainite. <i>Scripta Materialia</i> , 2004, 50, 1277-1281.	2.6	107
33	Thermographic Microstructure Monitoring in Electron Beam Additive Manufacturing. <i>Scientific Reports</i> , 2017, 7, 43554.	1.6	105
34	Development of macro- and microstructures of carbon-manganese low alloy steel welds: inclusion formation. <i>Materials Science and Technology</i> , 1995, 11, 186-199.	0.8	104
35	Metallic materials for 3D printing. <i>MRS Bulletin</i> , 2016, 41, 729-741.	1.7	99
36	Microstructure Development in Electron Beam-Melted Inconel 718 and Associated Tensile Properties. <i>Jom</i> , 2016, 68, 1012-1020.	0.9	98

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37	Rationalization of anisotropic mechanical properties of Al-6061 fabricated using ultrasonic additive manufacturing. <i>Acta Materialia</i> , 2016, 117, 228-237.	3.8	98
38	Atom probe study of the precipitation process in Al _i -Cu _i -Mg _i -Ag alloys. <i>Acta Metallurgica Et Materialia</i> , 1993, 41, 829-838.	1.9	97
39	Effect of grain size refinement and precipitation reactions on strengthening in friction stir processed Al ₂ Cu alloys. <i>Scripta Materialia</i> , 2011, 65, 1057-1060.	2.6	95
40	Towards high-temperature applications of aluminium alloys enabled by additive manufacturing. <i>International Materials Reviews</i> , 2022, 67, 298-345.	9.4	95
41	Development of rapid heating and cooling (flash processing) process to produce advanced high strength steel microstructures. <i>Materials Science and Technology</i> , 2011, 27, 863-875.	0.8	92
42	Additive manufacturing of materials: Opportunities and challenges. <i>MRS Bulletin</i> , 2015, 40, 1154-1161.	1.7	91
43	Synchrotron X-ray studies of austenite and bainitic ferrite. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2008, 464, 1009-1027.	1.0	86
44	Atom probe field ion microscopy study of the partitioning of substitutional elements during tempering of a low-alloy steel martensite. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 1994, 25, 499-508.	1.1	85
45	Welding of nickel base superalloy single crystals. <i>Science and Technology of Welding and Joining</i> , 1997, 2, 79-88.	1.5	85
46	Additive manufacturing of complex-shaped graded TiC/steel composites. <i>Materials and Design</i> , 2017, 118, 198-203.	3.3	84
47	Quantitative Evaluation of Bulk and Interface Microstructures in Al-3003 Alloy Builds Made by Very High Power Ultrasonic Additive Manufacturing. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2011, 42, 4045-4055.	1.1	81
48	Thermal transients during processing of materials by very high power ultrasonic additive manufacturing. <i>Journal of Materials Processing Technology</i> , 2011, 211, 1650-1657.	3.1	81
49	Microstructure and texture evolution in aluminum and commercially pure titanium dissimilar welds fabricated using ultrasonic additive manufacturing. <i>Scripta Materialia</i> , 2016, 117, 1-5.	2.6	81
50	Verification and validation of a rapid heat transfer calculation methodology for transient melt pool solidification conditions in powder bed metal additive manufacturing. <i>Additive Manufacturing</i> , 2017, 18, 256-268.	1.7	81
51	Joining of nickel base superalloy single crystals. <i>Science and Technology of Welding and Joining</i> , 2004, 9, 1-12.	1.5	78
52	Mechanism of the Transition from Bainite to Acicular Ferrite. <i>Materials Transactions, JIM</i> , 1991, 32, 679-688.	0.9	77
53	Structure-mechanical property relationship in fused deposition modelling. <i>Materials Science and Technology</i> , 2015, 31, 895-903.	0.8	74
54	Bipolar plate development with additive manufacturing and protective coating for durable and high-efficiency hydrogen production. <i>Journal of Power Sources</i> , 2018, 396, 590-598.	4.0	74

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55	Stray grain formation in single crystal Ni-base superalloy welds. <i>Journal of Applied Physics</i> , 2003, 94, 4203-4209.	1.1	72
56	Transition from bainite to acicular ferrite in reheated Fe-C weld deposits. <i>Materials Science and Technology</i> , 1990, 6, 1005-1020.	0.8	71
57	Neutron depth profiling technique for studying aging in Li-ion batteries. <i>Electrochimica Acta</i> , 2011, 56, 4735-4743.	2.6	71
58	Observations of ferrite/austenite transformations in the heat affected zone of 2205 duplex stainless steel spot welds using time resolved X-ray diffraction. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2004, 374, 307-321.	2.6	70
59	Fully printed and integrated electrolyzer cells with additive manufacturing for high-efficiency water splitting. <i>Applied Energy</i> , 2018, 215, 202-210.	5.1	69
60	Additive manufactured bipolar plate for high-efficiency hydrogen production in proton exchange membrane electrolyzer cells. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 14734-14740.	3.8	67
61	Design and Tailoring of Alloys for Additive Manufacturing. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2020, 51, 6000-6019.	1.1	67
62	Stress and the acicular ferrite transformation. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1992, 156, 1-9.	2.6	65
63	Effect of 30T magnetic field on transformations in a novel bainitic steel. <i>Scripta Materialia</i> , 2005, 52, 461-466.	2.6	64
64	Friction Skew-stir welding of lap joints in 5083 aluminium. <i>Science and Technology of Welding and Joining</i> , 2005, 10, 268-280.	1.5	62
65	Diffusion of carbon in substitutionally alloyed austenite. <i>Journal of Materials Science Letters</i> , 1995, 14, 314-316.	0.5	61
66	Effect of post weld heat treatment on the 6061 aluminum alloy produced by ultrasonic additive manufacturing. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017, 684, 606-616.	2.6	61
67	Interfacial ultrafine-grained structures on aluminum alloy 6061 joint and copper alloy 110 joint fabricated by magnetic pulse welding. <i>Journal of Materials Science</i> , 2010, 45, 4645-4651.	1.7	59
68	Characterization of microstructural strengthening in the heat-affected zone of a blast-resistant naval steel. <i>Acta Materialia</i> , 2010, 58, 5596-5609.	3.8	59
69	Ultrasonic additive manufacturing of steel: Method, post-processing treatments and properties. <i>Journal of Materials Processing Technology</i> , 2018, 256, 183-189.	3.1	58
70	Inclusion Formation and Microstructure Evolution in Low Alloy Steel Welds.. <i>ISIJ International</i> , 2002, 42, 1344-1353.	0.6	57
71	Dependency of martensite start temperature on prior austenite grain size and its influence on welding-induced residual stresses. <i>Computational Materials Science</i> , 2013, 69, 251-260.	1.4	56
72	Influence of hot isostatic pressing on the performance of aluminum alloy fabricated by ultrasonic additive manufacturing. <i>Scripta Materialia</i> , 2018, 145, 33-36.	2.6	56

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73	Thermal diffusivity study of aged Li-ion batteries using flash method. Journal of Power Sources, 2010, 195, 872-876.	4.0	55
74	Texture Evolution During Laser Direct Metal Deposition of Ti-6Al-4V. Jom, 2016, 68, 772-777.	0.9	55
75	Toward prediction of microstructural evolution during laser surface alloying. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2002, 33, 1189-1200.	1.1	54
76	Microstructural and micromechanical characterization of IN718 theta shaped specimens built with electron beam melting. Acta Materialia, 2016, 108, 161-175.	3.8	54
77	Characterisation of Al-Ti dissimilar material joints fabricated using ultrasonic additive manufacturing. Science and Technology of Welding and Joining, 2016, 21, 114-123.	1.5	54
78	Direct Observation that Bainite can Grow Below MS. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 4984-4988.	1.1	53
79	Microstructure evolution during tensile deformation of a nanostructured bainitic steel. Scripta Materialia, 2013, 69, 777-780.	2.6	53
80	Effect of microstructure and defects on fatigue behaviour of directed energy deposited Ti-6Al-4V. Science and Technology of Welding and Joining, 2015, 20, 659-669.	1.5	53
81	Stray grain formation, thermomechanical stress and solidification cracking in single crystal nickel base superalloy welds. Science and Technology of Welding and Joining, 2004, 9, 472-482.	1.5	52
82	Compositional analysis on the reverted austenite and tempered martensite in a Ti-stabilized supermartensitic stainless steel: Segregation, partitioning and carbide precipitation. Materials and Design, 2018, 140, 95-105.	3.3	51
83	APFIM studies on martensite tempering of Fe-C-Si-Mn low alloy steel. Applied Surface Science, 1993, 67, 321-327.	3.1	50
84	Multi-Scale Characterization Studies of Aged Li-Ion Large Format Cells for Improved Performance: An Overview. Journal of the Electrochemical Society, 2013, 160, A2111-A2154.	1.3	50
85	Atom probe study of early stage phase decomposition in an Al-7.8 at.% Li alloy. Acta Metallurgica Et Materialia, 1992, 40, 3027-3034.	1.9	48
86	Microstructural effects on the springback of advanced high-strength steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2006, 37, 3221-3231.	1.1	48
87	Intragranular precipitation in alloy 718. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1999, 270, 14-18.	2.6	47
88	Comparison of the phase compositions in Alloy 718 measured by atom probe tomography and predicted by thermodynamic calculations. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2002, 327, 84-88.	2.6	47
89	Thermodynamic and kinetic models for describing microstructure evolution during joining of metals and alloys. International Materials Reviews, 2009, 54, 333-367.	9.4	47
90	On the toughness scatter in low alloy C-Mn steel samples fabricated using wire arc additive manufacturing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 713, 18-27.	2.6	47

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91	Using Tournaments to Reduce Agency Problems: The Case of Franchising. <i>Entrepreneurship Theory and Practice</i> , 2011, 35, 427-447.	7.1	46
92	Correlation of precipitate stability to increased creep resistance of Cr-Mo steel welds. <i>Acta Materialia</i> , 2013, 61, 2194-2206.	3.8	46
93	Asymmetric Cracking in Mar-M247 Alloy Builds During Electron Beam Powder Bed Fusion Additive Manufacturing. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018, 49, 5065-5079.	1.1	45
94	Microstructure and properties of additively manufactured Al-Ce-Mg alloys. <i>Scientific Reports</i> , 2021, 11, 6953.	1.6	44
95	Process-Defect-Structure-Property Correlations During Laser Powder Bed Fusion of Alloy 718: Role of In Situ and Ex Situ Characterizations. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018, 49, 5775-5798.	1.1	43
96	Atom probe compositional analysis of Co-Cr sputtered magnetic thin films. <i>Applied Physics Letters</i> , 1993, 62, 2504-2506.	1.5	42
97	Processing of Fe ₃ Al and FeAl alloys by reaction synthesis. <i>Intermetallics</i> , 1995, 3, 467-481.	1.8	42
98	Microstructural Characteristics and Mechanical Properties of Friction Stir Welded Thick 5083 Aluminum Alloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2017, 48, 208-229.	1.1	42
99	Feasibility of in situ controlled heat treatment (ISHT) of Inconel 718 during electron beam melting additive manufacturing. <i>Additive Manufacturing</i> , 2017, 13, 156-165.	1.7	42
100	Role of scan strategies on thermal gradient and solidification rate in electron beam powder bed fusion. <i>Additive Manufacturing</i> , 2018, 22, 516-527.	1.7	42
101	In situ observations of weld pool solidification using transparent metal-analog systems. <i>Journal of Applied Physics</i> , 2003, 93, 4885-4895.	1.1	40
102	Low temperature relaxation of residual stress in Ti-6Al-4V. <i>Scripta Materialia</i> , 2005, 52, 1051-1056.	2.6	40
103	In situ observations of non-equilibrium austenite formation during weld solidification of an Fe-C-Al-Mn low alloy steel. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2002, 458, 811-821.	1.0	39
104	Microstructure characterisation of magnetic pulse welded AA6061-T6 by electron backscattered diffraction. <i>Science and Technology of Welding and Joining</i> , 2008, 13, 467-471.	1.5	39
105	Surface potential measurement of aged Li-ion batteries using Kelvin probe microscopy. <i>Journal of Power Sources</i> , 2011, 196, 1508-1512.	4.0	39
106	Modeling of inclusion growth and dissolution in the weld pool. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2000, 31, 161-169.	1.0	38
107	Geometry-Induced Spatial Variation of Microstructure Evolution During Selective Electron Beam Melting of Rene-N5. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018, 49, 5080-5096.	1.1	38
108	Calculation of inclusion formation in low-alloy-steel welds. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1996, 215, 84-91.	2.6	37

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109	Atom probe field ion microscopy investigation of boron containing martensitic 9 Pct chromium steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2000, 31, 975-984.	1.1	37
110	Scanning spreading resistance characterization of aged Li-ion batteries using atomic force microscopy. Scripta Materialia, 2009, 60, 933-936.	2.6	36
111	Effect of magnetic stirring on grain structure refinement Part 2 " Nickel alloy weld overlays. Science and Technology of Welding and Joining, 2010, 15, 400-406.	1.5	34
112	Additive manufacturing. Materials Science and Technology, 2015, 31, 881-883.	0.8	34
113	Ultrasonic additive manufacturing of 4130 steel using Ni interlayers. Science and Technology of Welding and Joining, 2019, 24, 382-390.	1.5	33
114	Reactive gas shielding during laser surface alloying for production of hard coatings. Surface and Coatings Technology, 2006, 200, 2663-2671.	2.2	32
115	Effect of magnetic stirring on grain structure refinement: Part 1 " Autogenous nickel alloy welds. Science and Technology of Welding and Joining, 2010, 15, 583-589.	1.5	32
116	Transient thermal response in ultrasonic additive manufacturing of aluminum 3003. Rapid Prototyping Journal, 2011, 17, 369-379.	1.6	32
117	Optimizing Ultrasonic Additive Manufactured Al 3003 Properties With Statistical Modeling. Journal of Engineering Materials and Technology, Transactions of the ASME, 2012, 134, .	0.8	32
118	Elastic constants of Ultrasonic Additive Manufactured Al 3003-H18. Ultrasonics, 2013, 53, 211-218.	2.1	32
119	Integrated computational model to predict mechanical behaviour of spot weld. Science and Technology of Welding and Joining, 2008, 13, 232-239.	1.5	31
120	Optical properties and CCN activity of aerosols in a high-altitude Himalayan environment: Results from RAWEX-GVAX. Journal of Geophysical Research D: Atmospheres, 2015, 120, 2453-2469.	1.2	31
121	Phase Field Simulations of Autocatalytic Formation of Alpha Lamellar Colonies in Ti-6Al-4V. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 6577-6592.	1.1	31
122	Multimodal β precipitation in Inconel-738 Ni-based superalloy during electron-beam powder bed fusion additive manufacturing. Journal of Materials Science, 2020, 55, 13342-13350.	1.7	31
123	Evaluation of microstructure stability at the interfaces of Al-6061 welds fabricated using ultrasonic additive manufacturing. Materials Characterization, 2018, 139, 249-258.	1.9	30
124	Five-Axis Ultrasonic Additive Manufacturing for Nuclear Component Manufacture. Jom, 2017, 69, 485-490.	0.9	29
125	Effect of high energy density welding processes on inclusion and microstructure formation in steel welds. Science and Technology of Welding and Joining, 1999, 4, 63-73.	1.5	28
126	Characterization of Steel-Ta Dissimilar Metal Builds Made Using Very High Power Ultrasonic Additive Manufacturing (VHP-UAM). Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 2517-2528.	1.1	28

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127	Tempering of Low-Temperature Bainite. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 3410-3418.	1.1	28
128	Microstructure and mechanical property characterisation of aluminium-steel joints fabricated using ultrasonic additive manufacturing. Science and Technology of Welding and Joining, 2017, 22, 373-380.	1.5	28
129	Characterization of topology optimized Ti-6Al-4V components using electron beam powder bed fusion. Additive Manufacturing, 2018, 19, 184-196.	1.7	28
130	Post-processing to Modify the β Phase Micro-Texture and β Phase Grain Morphology in Ti-6Al-4V Fabricated by Powder Bed Electron Beam Melting. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 3429-3439.	1.1	28
131	A direct study of grain boundary allotriomorphic ferrite crystallography. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1991, 142, 209-219.	2.6	27
132	Colossal super saturation of oxygen at the iron-aluminum interfaces fabricated using solid state welding. Scripta Materialia, 2017, 130, 196-199.	2.6	27
133	Coarsening of oxide inclusions in low alloy steel welds. Science and Technology of Welding and Joining, 1996, 1, 17-27.	1.5	26
134	Discovery of lithium in copper current collectors used in batteries. Scripta Materialia, 2012, 67, 669-672.	2.6	26
135	Effect of preheat temperature and post-process treatment on the microstructure and mechanical properties of stainless steel 410 made via ultrasonic additive manufacturing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 769, 138457.	2.6	26
136	Model for inclusion formation in low alloy steel welds. Science and Technology of Welding and Joining, 1999, 4, 276-284.	1.5	25
137	Strength Recovery in a High-Strength Steel During Multiple Weld Thermal Simulations. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 3669-3679.	1.1	25
138	Thermal Transients During Processing of 3003 Al-H18 Multilayer Build by Very High-Power Ultrasonic Additive Manufacturing. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2012, 43, 133-144.	1.0	25
139	Localized Changes of Stainless Steel Powder Characteristics During Selective Laser Melting Additive Manufacturing. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 1582-1605.	1.1	25
140	Phase transformation pathways in Ti-6Al-4V manufactured via electron beam powder bed fusion. Acta Materialia, 2021, 215, 117131.	3.8	25
141	Welding of Materials for Energy Applications. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 3385-3410.	1.1	24
142	Porosity and phase fraction evolution with aging in lithium iron phosphate battery cathodes. Journal of Power Sources, 2013, 243, 750-757.	4.0	23
143	Effect of microstructural heterogeneities on scatter of toughness in multi-pass weld metal of C-Mn steels. Science and Technology of Welding and Joining, 2014, 19, 376-384.	1.5	23
144	Evolution of dislocation structure in the heat affected zone of a nickel-based single crystal. Journal of Applied Physics, 2004, 96, 3673-3679.	1.1	22

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145	In situ X-ray diffraction analysis of strain-induced transformations in Fe- and Co-base hardfacing alloys. Scripta Materialia, 2015, 98, 60-63.	2.6	22
146	Approach to qualification using E-PBF in-situ process monitoring in Ti-6Al-4V. Additive Manufacturing, 2019, 28, 98-106.	1.7	22
147	In-Situ Monitoring for Defect Identification in Nickel Alloy Complex Geometries Fabricated by L-PBF Additive Manufacturing. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 6528-6545.	1.1	22
148	Transition from bainite to acicular ferrite in reheated Fe-Cr-C weld deposits. Materials Science and Technology, 1990, 6, 1005-1020.	0.8	22
149	Delamination failures of Stellite hardfacing in power plants: a microstructural characterisation study. Science and Technology of Welding and Joining, 2014, 19, 476-486.	1.5	21
150	On the potential mechanisms of β to α decomposition in two phase titanium alloys during additive manufacturing: a combined transmission Kikuchi diffraction and 3D atom probe study. Journal of Materials Science, 2020, 55, 1715-1726.	1.7	21
151	Sensitivity of Thermal Predictions to Uncertain Surface Tension Data in Laser Additive Manufacturing. Journal of Heat Transfer, 2020, 142, .	1.2	21
152	Compositional inhomogeneities in sputtered Co-Cr magnetic thin films studied by atom probe field ion microscopy. Journal of Applied Physics, 1994, 76, 8025-8031.	1.1	20
153	Phase stability and atom probe field ion microscopy of type 308 cre stainless steel weld metal. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1996, 27, 763-774.	1.1	20
154	Physical Simulation of Deformation and Microstructure Evolution During Friction Stir Processing of Ti-6Al-4V Alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 3577-3591.	1.1	20
155	Mechanical Characterization of an Additively Manufactured Inconel 718 Theta-Shaped Specimen. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 971-980.	1.1	20
156	Local electronic structure of LiFePO ₄ nanoparticles in aged Li-ion batteries. Acta Materialia, 2011, 59, 6917-6926.	3.8	19
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