Phil Withers

List of Publications by Year
in descending order

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		6254	9345
712	32,841	80	143
papers	citations	h-index	g-index

739	739	739	19738
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Residual stress. Part 1 â€“ Measurement techniques. Materials Science and Technology, 2001, 17, 355-365.	1.6	1,222
2	Friction stir welding of aluminium alloys. International Materials Reviews, 2009, 54, 49-93.	19.3	977
3	Quantitative X-ray tomography. International Materials Reviews, 2014, 59, 1-43.	19.3	975
4	Residual stress. Part 2 â€“ Nature and origins. Materials Science and Technology, 2001, 17, 366-375.	1.6	745
5	Microstructure, mechanical properties and residual stresses as a function of welding speed in aluminium AA5083 friction stir welds. Acta Materialia, 2003, 51, 4791-4801.	7.9	624
6	Residual stress and its role in failure. Reports on Progress in Physics, 2007, 70, 2211-2264.	20.1	571
7	The influence of the laser scan strategy on grain structure and cracking behaviour in SLM powder-bed fabricated nickel superalloy. Journal of Alloys and Compounds, 2014, 615, 338-347.	5.5	539
8	In situ X-ray imaging of defect and molten pool dynamics in laser additive manufacturing. Nature Communications, 2018, 9, 1355.	12.8	495
9	X-ray computed tomography of polymer composites. Composites Science and Technology, 2018, 156, 305-319.	7.8	455
10	Friction stir welding/processing of metals and alloys: A comprehensive review on microstructural evolution. Progress in Materials Science, 2021, 117, 100752.	32.8	436
11	The application of the eshelby method of internal stress determination to short fibre metal matrix composites. Acta Metallurgica, 1989, 37, 3061-3084.	2.1	377
12	X-ray computed tomography. Nature Reviews Methods Primers, 2021, 1, .	21.2	305
13	The Influence of Porosity on Fatigue Crack Initiation in Additively Manufactured Titanium Components. Scientific Reports, 2017, 7, 7308.	3.3	303
14	Influence of processing conditions on strut structure and compressive properties of cellular lattice structures fabricated by selective laser melting. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 628, 188-197.	5.6	289
15	Two-dimensional X-ray CT image based meso-scale fracture modelling of concrete. Engineering Fracture Mechanics, 2015, 133, 24-39.	4.3	289
16	X-ray nanotomography. Materials Today, 2007, 10, 26-34.	14.2	278
17	Large volume serial section tomography by Xe Plasma FIB dual beam microscopy. Ultramicroscopy, 2016, 161, 119-129.	1.9	231
18	Recent advances in residual stress measurement. International Journal of Pressure Vessels and Piping, 2008, 85, 118-127.	2.6	225

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19	The effect of powder oxidation on defect formation in laser additive manufacturing. Acta Materialia, 2019, 166, 294-305.	7.9	217
20	The effect of manufacturing defects on the fatigue life of selective laser melted Ti-6Al-4V structures. Materials and Design, 2020, 192, 108708.	7.0	209
21	Porosity regrowth during heat treatment of hot isostatically pressed additively manufactured titanium components. Scripta Materialia, 2016, 122, 72-76.	5.2	207
22	The Effectiveness of Hot Isostatic Pressing for Closing Porosity in Titanium Parts Manufactured by Selective Electron Beam Melting. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 1939-1946.	2.2	203
23	Methods for obtaining the strain-free lattice parameter when using diffraction to determine residual stress. Journal of Applied Crystallography, 2007, 40, 891-904.	4.5	194
24	High-temperature strain field measurement using digital image correlation. Journal of Strain Analysis for Engineering Design, 2009, 44, 263-271.	1.8	180
25	Welding residual stresses in ferritic power plant steels. Materials Science and Technology, 2007, 23, 1009-1020.	1.6	176
26	The imaging of failure in structural materials by synchrotron radiation X-ray microtomography. Engineering Fracture Mechanics, 2017, 182, 127-156.	4.3	168
27	Image based modelling of microstructural heterogeneity in LiFePO 4 electrodes for Li-ion batteries. Journal of Power Sources, 2014, 247, 1033-1039.	7.8	162
28	Dissimilar friction stir welds in AA5083â€“AA6082: The effect of process parameters on residual stress. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2006, 441, 187-196.	5.6	161
29	Residual stress of as-deposited and rolled wire+arc additive manufacturing Tiâ€“6Alâ€“4V components. Materials Science and Technology, 2016, 32, 1439-1448.	1.6	160
30	Ablation-resistant carbide Zr0.8Ti0.2C0.74B0.26 for oxidizing environments up to 3,000â€‰Â°C. Nature Communications, 2017, 8, 15836.	12.8	154
31	Interphase and intergranular stress generation in carbon steels. Acta Materialia, 2004, 52, 1937-1951.	7.9	149
32	Residual stresses in laser direct metal deposited Waspaloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 2288-2298.	5.6	149
33	A machine-learning fatigue life prediction approach of additively manufactured metals. Engineering Fracture Mechanics, 2021, 242, 107508.	4.3	149
34	Time-of-flight neutron transmission diffraction. Journal of Applied Crystallography, 2001, 34, 289-297.	4.5	145
35	The effect of defect population on the anisotropic fatigue resistance of AlSi10Mg alloy fabricated by laser powder bed fusion. International Journal of Fatigue, 2021, 151, 106317.	5.7	144
36	SALSAâ€”A new instrument for strain imaging in engineering materials and components. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2006, 437, 139-144.	5.6	140

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37	A high energy synchrotron x-ray study of crystallographic texture and lattice strain in soft lead zirconate titanate ceramics. Journal of Applied Physics, 2004, 96, 4245-4252.	2.5	138
38	Full-field strain mapping by optical correlation of micrographs acquired during deformation. Journal of Microscopy, 2005, 218, 9-21.	1.8	137
39	Dissimilar friction stir welds in AA5083-AA6082. Part I: Process parameter effects on thermal history and weld properties. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2006, 37, 2183-2193.	2.2	136
40	Three-dimensional characterization of electrodeposited lithium microstructures using synchrotron X-ray phase contrast imaging. Chemical Communications, 2015, 51, 266-268.	4.1	133
41	A new approach to correlate the defect population with the fatigue life of selective laser melted Ti-6Al-4V alloy. International Journal of Fatigue, 2020, 136, 105584.	5.7	133
42	Fatigue and Damage in Structural Materials Studied by X-Ray Tomography. Annual Review of Materials Research, 2012, 42, 81-103.	9.3	129
43	Correlative Tomography. Scientific Reports, 2014, 4, 4711.	3.3	124
44	Strain imaging by Bragg edge neutron transmission. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2002, 481, 765-768.	1.6	119
45	Multi Length Scale Microstructural Investigations of a Commercially Available Li-Ion Battery Electrode. Journal of the Electrochemical Society, 2012, 159, A1023-A1027.	2.9	118
46	Texture development in Tiâ€“6Alâ€“4V linear friction welds. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 459, 182-191.	5.6	117
47	The determination of the elastic field of an ellipsoidal inclusion in a transversely isotropic medium, and its relevance to composite materials. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1989, 59, 759-781.	0.6	116
48	A combined approach to microstructure mapping of an Alâ€“Li AA2199 friction stir weld. Acta Materialia, 2011, 59, 3002-3011.	7.9	115
49	Non-destructive mapping of grain orientations in 3D by laboratory X-ray microscopy. Scientific Reports, 2015, 5, 14665.	3.3	114
50	Characterizing Phase Transformations and Their Effects on Ferritic Weld Residual Stresses with X-Rays and Neutrons. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2008, 39, 3070-3078.	2.2	111
51	The stress intensity of mixed mode cracks determined by digital image correlation. Journal of Strain Analysis for Engineering Design, 2008, 43, 769-780.	1.8	111
52	The analysis of internal strains measured by neutron diffraction in Al/SiC metal matrix composites. Acta Metallurgica Et Materialia, 1992, 40, 2361-2373.	1.8	108
53	Three dimensional observations and modelling of intergranular stress corrosion cracking in austenitic stainless steel. Journal of Nuclear Materials, 2006, 352, 62-74.	2.7	108
54	The effect of defects on the mechanical response of Ti-6Al-4V cubic lattice structures fabricated by electron beam melting. Acta Materialia, 2016, 108, 279-292.	7.9	108

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55	Application of Micro-Computed Tomography With Iodine Staining to Cardiac Imaging, Segmentation, and Computational Model Development. IEEE Transactions on Medical Imaging, 2013, 32, 8-17.	8.9	106
56	Microstructure mapping in friction stir welds of 7449 aluminium alloy using SAXS. Acta Materialia, 2006, 54, 4793-4801.	7.9	104
57	Separation of macroscopic, elastic mismatch and thermal expansion misfit stresses in metal matrix composite quenched plates from neutron diffraction measurements. Acta Materialia, 1997, 45, 4867-4876.	7.9	103
58	On the deformation twinning of Mg AZ31B: A three-dimensional synchrotron X-ray diffraction experiment and crystal plasticity finite element model. International Journal of Plasticity, 2015, 70, 77-97.	8.8	103
59	Comparison of tool wear mechanisms and surface integrity for dry and wet micro-drilling of nickel-base superalloys. International Journal of Machine Tools and Manufacture, 2014, 76, 49-60.	13.4	101
60	2D and 3D imaging of fatigue failure mechanisms of 3D woven composites. Composites Part A: Applied Science and Manufacturing, 2015, 77, 37-49.	7.6	100
61	Residual stress driven creep cracking in AISI Type 316 stainless steel. Acta Materialia, 2008, 56, 3598-3612.	7.9	99
62	Deformation twinning in Ti-6Al-4V during low strain rate deformation to moderate strains at room temperature. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 5734-5744.	5.6	95
63	X-ray computed tomography in life sciences. BMC Biology, 2020, 18, 21.	3.8	95
64	Weibull modelling of particle cracking in metal matrix composites. Acta Metallurgica Et Materialia, 1995, 43, 3685-3699.	1.8	94
65	Evolution of a laser shock peened residual stress field locally with foreign object damage and subsequent fatigue crack growth. Acta Materialia, 2015, 83, 216-226.	7.9	94
66	Linking microstructure and processing defects to mechanical properties of selectively laser melted AlSi10Mg alloy. Theoretical and Applied Fracture Mechanics, 2018, 98, 123-133.	4.7	92
67	High resolution X-ray tomography of short fatigue crack nucleation in austempered ductile cast iron. International Journal of Fatigue, 2004, 26, 717-725.	5.7	91
68	X-ray microtomographic observation of intergranular stress corrosion cracking in sensitised austenitic stainless steel. Materials Science and Technology, 2006, 22, 1068-1075.	1.6	91
69	Damage development in open-hole composite specimens in fatigue. Part 1: Experimental investigation. Composite Structures, 2013, 106, 882-889.	5.8	90
70	Lithiationâ€Induced Dilation Mapping in a Lithiumâ€Ion Battery Electrode by 3D Xâ€Ray Microscopy and Digital Volume Correlation. Advanced Energy Materials, 2014, 4, 1300506.	19.5	89
71	Engineering applications of Bragg-edge neutron transmission. Applied Physics A: Materials Science and Processing, 2002, 74, s1433-s1436.	2.3	88
72	Residual stress engineering in friction stir welds by roller tensioning. Science and Technology of Welding and Joining, 2009, 14, 185-192.	3.1	88

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73	The effect of particle distribution on damage formation in particulate reinforced metal matrix composites deformed in compression. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1996, 220, 41-56.	5.6	87
74	Importance of crystal orientation in linear friction joining of single crystal to polycrystalline nickel-based superalloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 491, 446-453.	5.6	86
75	Synchrotron X-ray studies of austenite and bainitic ferrite. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2008, 464, 1009-1027.	2.1	86
76	Morphological Characterisation of Unstained and Intact Tissue Micro-architecture by X-ray Computed Micro- and Nano-Tomography. Scientific Reports, 2015, 5, 10074.	3.3	86
77	Corrosion fatigue lifetime assessment of high-speed railway axle EA4T steel with artificial scratch. Engineering Fracture Mechanics, 2021, 245, 107588.	4.3	86
78	Global mechanical tensioning for the management of residual stresses in welds. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 489, 351-362.	5.6	85
79	Evolution of damage during the fatigue of 3D woven glass-fibre reinforced composites subjected to tensionâ€“tension loading observed by time-lapse X-ray tomography. Composites Part A: Applied Science and Manufacturing, 2016, 82, 279-290.	7.6	85
80	Inertia welding nickel-based superalloy: Part I. Metallurgical characterization. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2002, 33, 3215-3225.	2.2	84
81	Neutron and synchrotron measurements of residual strain in TIG welded aluminium alloy 2024. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 346, 159-167.	5.6	84
82	Region-of-interest tomography using filtered backprojection: assessing the practical limits. Journal of Microscopy, 2011, 241, 69-82.	1.8	83
83	Crystallographic effects on the corrosion of twin roll cast AZ31 Mg alloy sheet. Acta Materialia, 2017, 133, 90-99.	7.9	83
84	A comparison of inertia friction welds in three nickel base superalloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2006, 437, 38-45.	5.6	82
85	The sensitivity of Ni-based superalloy to hole making operations: Influence of process parameters on subsurface damage and residual stress. Journal of Materials Processing Technology, 2009, 209, 3968-3977.	6.3	82
86	Investigation of strain-rate effect on the compressive behaviour of closed-cell aluminium foam by 3D image-based modelling. Materials and Design, 2016, 89, 215-224.	7.0	82
87	The evolution of crack-tip stresses during a fatigue overload event. Acta Materialia, 2010, 58, 4039-4052.	7.9	81
88	Metamorphosis revealed: time-lapse three-dimensional imaging inside a living chrysalis. Journal of the Royal Society Interface, 2013, 10, 20130304.	3.4	80
89	The effect of density and feature size on mechanical properties of isostructural metallic foams produced by additive manufacturing. Acta Materialia, 2015, 85, 387-395.	7.9	80
90	Repeated crack healing in MAX-phase ceramics revealed by 4D in situ synchrotron X-ray tomographic microscopy. Scientific Reports, 2016, 6, 23040.	3.3	80

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91	Relaxation of residual stress in shot peened Udimet 720Li under high temperature isothermal fatigue. International Journal of Fatigue, 2005, 27, 1530-1534.	5.7	78
92	Mapping two-dimensional state of strain using synchroton X-ray diffraction. Scripta Materialia, 1998, 39, 1705-1712.	5.2	77
93	The effect of Î² phase on microstructure and texture evolution during thermomechanical processing of Î± + Î² Ti alloy. Acta Materialia, 2013, 61, 3200-3213.	7.9	77
94	Comparison of residual stress distributions in conventional and stationary shoulder high-strength aluminum alloy friction stir welds. Journal of Materials Processing Technology, 2017, 242, 92-100.	6.3	77
95	Neutron and Synchrotron Xâ€ray Strain Scanning. Strain, 2001, 37, 19-33.	2.4	76
96	Analysis of elastic strain and crystallographic texture in poled rhombohedral PZT ceramics. Acta Materialia, 2006, 54, 3075-3083.	7.9	76
97	Using Synchrotron X-Ray Nano-CT to Characterize SOFC Electrode Microstructures in Three-Dimensions at Operating Temperature. Electrochemical and Solid-State Letters, 2011, 14, B117.	2.2	76
98	The Measurement of Residual Stress in Railway Rails by Diffraction and other Methods *. Journal of Neutron Research, 2003, 11, 187-193.	1.1	75
99	Comparison of residual stresses in Tiâ€“6Alâ€“4V and Tiâ€“6Alâ€“2Snâ€“4Zrâ€“2Mo linear friction welds. Materials Science and Technology, 2009, 25, 640-650.	1.6	74
100	Generation of micro-scale finite element models from synchrotron X-ray CT images for multidirectional carbon fibre reinforced composites. Composites Part A: Applied Science and Manufacturing, 2016, 91, 85-95.	7.6	74
101	Noncontact Characterization of Carbon-Fiber-Reinforced Plastics Using Multifrequency Eddy Current Sensors. IEEE Transactions on Instrumentation and Measurement, 2009, 58, 738-743.	4.7	73
102	The application of phase contrast X-ray techniques for imaging Li-ion battery electrodes. Nuclear Instruments & Methods in Physics Research B, 2014, 324, 118-123.	1.4	73
103	Completing the picture through correlative characterization. Nature Materials, 2019, 18, 1041-1049.	27.5	73
104	Effects of fatigue and fretting on residual stresses introduced by laser shock peening. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2006, 435-436, 12-18.	5.6	72
105	3D chemical imaging in the laboratory by hyperspectral X-ray computed tomography. Scientific Reports, 2015, 5, 15979.	3.3	72
106	Fracture mechanics by three-dimensional crack-tip synchrotron X-ray microscopy. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20130157.	3.4	72
107	The potency of defects on fatigue of additively manufactured metals. International Journal of Mechanical Sciences, 2022, 221, 107185.	6.7	72
108	High-resolution strain mapping in bulk samples using full-profile analysis of energy-dispersive synchrotron X-ray diffraction data. Journal of Applied Crystallography, 2004, 37, 883-889.	4.5	71

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109	Engineering the residual stress state and microstructure ofÂstainless steel with mechanical surface treatments. Applied Physics A: Materials Science and Processing, 2010, 99, 549-556.	2.3	71
110	The variation in elastic modulus throughout the compression of foam materials. Acta Materialia, 2016, 110, 161-174.	7.9	71
111	Mapping fibre failure in situ in carbon fibre reinforced polymers by fast synchrotron X-ray computed tomography. Composites Science and Technology, 2017, 149, 81-89.	7.8	71
112	Dissimilar friction stir welds in AA5083-AA6082. Part II: Process parameter effects on microstructure. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2006, 37, 2195-2206.	2.2	70
113	Mapping residual and internal stress in materials by neutron diffraction. Comptes Rendus Physique, 2007, 8, 806-820.	0.9	70
114	Crystallographic texture and microstructure of pulsed diode laser-deposited Waspaloy. Acta Materialia, 2009, 57, 1220-1229.	7.9	70
115	X-ray computed tomography study of kink bands in unidirectional composites. Composite Structures, 2017, 160, 917-924.	5.8	69
116	Neutron-diffraction study of stress-induced martensitic transformation in TRIP steel. Applied Physics A: Materials Science and Processing, 2002, 74, s1143-s1145.	2.3	68
117	X-ray damage characterisation in self-healing fibre reinforced polymers. Composites Part A: Applied Science and Manufacturing, 2012, 43, 613-620.	7.6	68
118	Exploring microstructural changes associated with oxidation in Niâ€“YSZ SOFC electrodes using high resolution X-ray computed tomography. Solid State Ionics, 2012, 216, 69-72.	2.7	68
119	The effect of tensioning and sectioning on residual stresses in aluminium AA7749 friction stir welds. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 488, 16-24.	5.6	66
120	A novel architecture for pore network modelling with applications to permeability of porous media. Journal of Hydrology, 2013, 486, 246-258.	5.4	66
121	A neutron diffraction study of load partitioning in continuous Ti/SiC composites. Acta Materialia, 1998, 46, 6585-6598.	7.9	64
122	On the evolution of local material properties and residual stress in a three-pass SA508 steel weld. Acta Materialia, 2012, 60, 3268-3278.	7.9	64
123	Some experimental observations on crack closure and crackâ€tip plasticity. Fatigue and Fracture of Engineering Materials and Structures, 2009, 32, 418-429.	3.4	63
124	Evaluation of surface integrity in micro drilling process for nickel-based superalloy. International Journal of Advanced Manufacturing Technology, 2011, 55, 465-476.	3.0	63
125	Determination of the high temperature elastic properties and diffraction elastic constants of Ni-base superalloys. Materials and Design, 2016, 89, 856-863.	7.0	63
126	The deformation of discontinuously reinforced MMCsâ€”I. The initial yielding behaviour. Acta Metallurgica Et Materialia, 1994, 42, 3425-3436.	1.8	62

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127	Turning of advanced Ni based alloys obtained via powder metallurgy route. CIRP Annals - Manufacturing Technology, 2006, 55, 117-120.	3.6	62
128	Effect of overload on crack closure in thick and thin specimens via digital image correlation. International Journal of Fatigue, 2013, 56, 17-24.	5.7	62
129	The quantification of impact damage distribution in composite laminates by analysis of X-ray computed tomograms. Composites Science and Technology, 2017, 152, 139-148.	7.8	62
130	Defect evolution during high temperature tension-tension fatigue of SLM AlSi10Mg alloy by synchrotron tomography. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 792, 139809.	5.6	62
131	Quantification of creep cavitation damage around a crack in a stainless steel pressure vessel. Acta Materialia, 2004, 52, 23-34.	7.9	60
132	Using pulsed neutron transmission for crystalline phase imaging and analysis. Journal of Applied Physics, 2005, 97, 074903.	2.5	60
133	Synchrotron X-ray residual strain scanning of a friction stir weld. Journal of Strain Analysis for Engineering Design, 2001, 36, 61-70.	1.8	59
134	Micromechanics of residual stress and texture development due to poling in polycrystalline ferroelectric ceramics. Journal of the Mechanics and Physics of Solids, 2005, 53, 249-260.	4.8	59
135	Surface Decoration for Improving the Accuracy of Displacement Measurements by Digital Image Correlation in SEM. Experimental Mechanics, 2012, 52, 793-804.	2.0	59
136	Fatigue damage assessment of uni-directional non-crimp fabric reinforced polyester composite using X-ray computed tomography. Composites Science and Technology, 2016, 136, 94-103.	7.8	59
137	In situ three-dimensional X-ray microtomography of an auxetic foam under tension. Scripta Materialia, 2009, 60, 232-235.	5.2	58
138	Residual stresses in face finish turning of high strength nickel-based superalloy. Journal of Materials Processing Technology, 2009, 209, 4896-4902.	6.3	58
139	Microstructural evolution during sintering of copper particles studied by laboratory diffraction contrast tomography (LabDCT). Scientific Reports, 2017, 7, 5251.	3.3	58
140	Laser-matter interactions in additive manufacturing of stainless steel SS316L and 13-93 bioactive glass revealed by in situ X-ray imaging. Additive Manufacturing, 2018, 24, 647-657.	3.0	57
141	Effect of preheating on the thermal, microstructural and mechanical properties of selective electron beam melted Ti-6Al-4V components. Materials and Design, 2019, 174, 107792.	7.0	57
142	ENGIN â€" A new instrument for engineers. Physica B: Condensed Matter, 1997, 234-236, 1141-1143.	2.7	56
143	An anisotropic enhanced thermal conductivity approach for modelling laser melt pools for Ni-base super alloys. Applied Mathematical Modelling, 2013, 37, 1187-1195.	4.2	56
144	Modelling the effect of elastic and plastic anisotropies on stresses at grain boundaries. International Journal of Plasticity, 2014, 61, 49-63.	8.8	56

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145	High Pressure Interpass Rolling of Wire + Arc Additively Manufactured Titanium Components. Advanced Materials Research, 0, 996, 694-700.	0.3	55
146	Changes in the misfit stresses in an Al/SiCp metal matrix composite under plastic strain. Acta Materialia, 2002, 50, 1031-1040.	7.9	54
147	Residual stress relief in MAG welded joints of dissimilar steels. International Journal of Pressure Vessels and Piping, 2003, 80, 705-713.	2.6	54
148	Laser Shock Peening on Zr-based Bulk Metallic Glass and Its Effect on Plasticity: Experiment and Modeling. Scientific Reports, 2015, 5, 10789.	3.3	54
149	SparseBeads data: benchmarking sparsity-regularized computed tomography. Measurement Science and Technology, 2017, 28, 124005.	2.6	54
150	A synchrotron X-ray study of a Ti/SiCf composite during in situ straining. Acta Materialia, 2001, 49, 153-163.	7.9	53
151	Study of a Crack at a Fastener Hole by Digital Image Correlation. Experimental Mechanics, 2009, 49, 551-559.	2.0	53
152	Finite element process modelling of inertia friction welding advanced nickel-based superalloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 513-514, 366-375.	5.6	53
153	Efficacy of active cooling for controlling residual stresses in friction stir welds. Science and Technology of Welding and Joining, 2010, 15, 156-165.	3.1	53
154	In situ 3D Xâ€ray microtomography study comparing auxetic and nonâ€auxetic polymeric foams under tension. Physica Status Solidi (B): Basic Research, 2011, 248, 45-51.	1.5	53
155	Reliability of Algorithms Interpreting Topological and Geometric Properties of Porous Media for Pore Network Modelling. Transport in Porous Media, 2019, 128, 271-301.	2.6	53
156	A synchrotron radiation study of transient internal strain changes during the early stages of thermal cycling in an Al / SiCw MMC. Scripta Materialia, 1996, 35, 1229-1234.	5.2	52
157	Microstructural development in Pt-aluminide coating on CMSX-4 superalloy during TMF. Surface and Coatings Technology, 1998, 107, 76-83.	4.8	52
158	In situ analysis of cracks in structural materials using synchrotron X-ray tomography and diffraction. Nuclear Instruments & Methods in Physics Research B, 2006, 246, 217-225.	1.4	52
159	The Effects of Filler Metal Transformation Temperature on Residual Stresses in a High Strength Steel Weld. Journal of Pressure Vessel Technology, Transactions of the ASME, 2009, 131, .	0.6	52
160	Neutron strain scanning using a radially collimated diffracted beam. Physica B: Condensed Matter, 2000, 292, 273-285.	2.7	51
161	The effect of thermal oxidation on polycrystalline graphite studied by X-ray tomography. Carbon, 2005, 43, 765-774.	10.3	51
162	Image stitching strategies for tomographic imaging of large objects at high resolution at synchrotron sources. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2009, 607, 677-684.	1.6	51

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163	The pulsed eddy current response to applied loading of various aluminium alloys. NDT and E International, 2010, 43, 493-500.	3.7	51
164	Investigation of interfacial properties of atmospheric plasma sprayed thermal barrier coatings with four-point bending and computed tomography technique. Surface and Coatings Technology, 2012, 206, 4922-4929.	4.8	51
165	Friction Stir Welding in HSLA-65 Steel: Part I. Influence of Weld Speed and Tool Material on Microstructural Development. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 2342-2355.	2.2	51
166	Measuring overload effects during fatigue crack growth in bainitic steel by synchrotron X-ray diffraction. International Journal of Fatigue, 2015, 71, 11-16.	5.7	51
167	High resolution low kV EBSD of heavily deformed and nanocrystalline Aluminium by dictionary-based indexing. Scientific Reports, 2018, 8, 10991.	3.3	51
168	Serial sectioning in the SEM for three dimensional materials science. Current Opinion in Solid State and Materials Science, 2020, 24, 100817.	11.5	51
169	Effects of Grain and Pore Size on Salt Precipitation During Evaporation from Porous Media. Transport in Porous Media, 2015, 110, 281-294.	2.6	50
170	Diffraction tomography of strain. Inverse Problems, 2015, 31, 045005.	2.0	50
171	Inertia welding nickel-based superalloy: Part II. Residual stress characterization. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2002, 33, 3227-3234.	2.2	49
172	The effect of fibre fractures in the bridging zone of fatigue cracked Tiâ€“6Alâ€“4V/SiC fibre composites. Acta Materialia, 2004, 52, 1423-1438.	7.9	49
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