

Phil Withers

List of Publications by Year in descending order

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712
papers

32,841
citations

6250

80
h-index

9334

143
g-index

739
all docs

739
docs citations

739
times ranked

19738
citing authors

#	ARTICLE	IF	CITATIONS
1	Residual stress. Part 1 – Measurement techniques. <i>Materials Science and Technology</i> , 2001, 17, 355-365.	0.8	1,222
2	Friction stir welding of aluminium alloys. <i>International Materials Reviews</i> , 2009, 54, 49-93.	9.4	977
3	Quantitative X-ray tomography. <i>International Materials Reviews</i> , 2014, 59, 1-43.	9.4	975
4	Residual stress. Part 2 – Nature and origins. <i>Materials Science and Technology</i> , 2001, 17, 366-375.	0.8	745
5	Microstructure, mechanical properties and residual stresses as a function of welding speed in aluminium AA5083 friction stir welds. <i>Acta Materialia</i> , 2003, 51, 4791-4801.	3.8	624
6	Residual stress and its role in failure. <i>Reports on Progress in Physics</i> , 2007, 70, 2211-2264.	8.1	571
7	The influence of the laser scan strategy on grain structure and cracking behaviour in SLM powder-bed fabricated nickel superalloy. <i>Journal of Alloys and Compounds</i> , 2014, 615, 338-347.	2.8	539
8	In situ X-ray imaging of defect and molten pool dynamics in laser additive manufacturing. <i>Nature Communications</i> , 2018, 9, 1355.	5.8	495
9	X-ray computed tomography of polymer composites. <i>Composites Science and Technology</i> , 2018, 156, 305-319.	3.8	455
10	Friction stir welding/processing of metals and alloys: A comprehensive review on microstructural evolution. <i>Progress in Materials Science</i> , 2021, 117, 100752.	16.0	436
11	The application of the eshelby method of internal stress determination to short fibre metal matrix composites. <i>Acta Metallurgica</i> , 1989, 37, 3061-3084.	2.1	377
12	X-ray computed tomography. <i>Nature Reviews Methods Primers</i> , 2021, 1, .	11.8	305
13	The Influence of Porosity on Fatigue Crack Initiation in Additively Manufactured Titanium Components. <i>Scientific Reports</i> , 2017, 7, 7308.	1.6	303
14	Influence of processing conditions on strut structure and compressive properties of cellular lattice structures fabricated by selective laser melting. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015, 628, 188-197.	2.6	289
15	Two-dimensional X-ray CT image based meso-scale fracture modelling of concrete. <i>Engineering Fracture Mechanics</i> , 2015, 133, 24-39.	2.0	289
16	X-ray nanotomography. <i>Materials Today</i> , 2007, 10, 26-34.	8.3	278
17	Large volume serial section tomography by Xe Plasma FIB dual beam microscopy. <i>Ultramicroscopy</i> , 2016, 161, 119-129.	0.8	231
18	Recent advances in residual stress measurement. <i>International Journal of Pressure Vessels and Piping</i> , 2008, 85, 118-127.	1.2	225

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19	The effect of powder oxidation on defect formation in laser additive manufacturing. <i>Acta Materialia</i> , 2019, 166, 294-305.	3.8	217
20	The effect of manufacturing defects on the fatigue life of selective laser melted Ti-6Al-4V structures. <i>Materials and Design</i> , 2020, 192, 108708.	3.3	209
21	Porosity regrowth during heat treatment of hot isostatically pressed additively manufactured titanium components. <i>Scripta Materialia</i> , 2016, 122, 72-76.	2.6	207
22	The Effectiveness of Hot Isostatic Pressing for Closing Porosity in Titanium Parts Manufactured by Selective Electron Beam Melting. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2016, 47, 1939-1946.	1.1	203
23	Methods for obtaining the strain-free lattice parameter when using diffraction to determine residual stress. <i>Journal of Applied Crystallography</i> , 2007, 40, 891-904.	1.9	194
24	High-temperature strain field measurement using digital image correlation. <i>Journal of Strain Analysis for Engineering Design</i> , 2009, 44, 263-271.	1.0	180
25	Welding residual stresses in ferritic power plant steels. <i>Materials Science and Technology</i> , 2007, 23, 1009-1020.	0.8	176
26	The imaging of failure in structural materials by synchrotron radiation X-ray microtomography. <i>Engineering Fracture Mechanics</i> , 2017, 182, 127-156.	2.0	168
27	Image based modelling of microstructural heterogeneity in LiFePO ₄ electrodes for Li-ion batteries. <i>Journal of Power Sources</i> , 2014, 247, 1033-1039.	4.0	162
28	Dissimilar friction stir welds in AA5083/AA6082: The effect of process parameters on residual stress. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2006, 441, 187-196.	2.6	161
29	Residual stress of as-deposited and rolled wire+arc additive manufacturing Ti-6Al-4V components. <i>Materials Science and Technology</i> , 2016, 32, 1439-1448.	0.8	160
30	Ablation-resistant carbide Zr _{0.8} Ti _{0.2} Co _{0.74} B _{0.26} for oxidizing environments up to 3,000°C. <i>Nature Communications</i> , 2017, 8, 15836.	5.8	154
31	Interphase and intergranular stress generation in carbon steels. <i>Acta Materialia</i> , 2004, 52, 1937-1951.	3.8	149
32	Residual stresses in laser direct metal deposited Waspaloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2011, 528, 2288-2298.	2.6	149
33	A machine-learning fatigue life prediction approach of additively manufactured metals. <i>Engineering Fracture Mechanics</i> , 2021, 242, 107508.	2.0	149
34	Time-of-flight neutron transmission diffraction. <i>Journal of Applied Crystallography</i> , 2001, 34, 289-297.	1.9	145
35	The effect of defect population on the anisotropic fatigue resistance of AlSi10Mg alloy fabricated by laser powder bed fusion. <i>International Journal of Fatigue</i> , 2021, 151, 106317.	2.8	144
36	SALSA: A new instrument for strain imaging in engineering materials and components. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2006, 437, 139-144.	2.6	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. <i>Journal of Applied Physics</i> , 2004, 96, 4245-4252.	1.1	138
38	Full-field strain mapping by optical correlation of micrographs acquired during deformation. <i>Journal of Microscopy</i> , 2005, 218, 9-21.	0.8	137
39	Dissimilar friction stir welds in AA5083-AA6082. Part I: Process parameter effects on thermal history and weld properties. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2006, 37, 2183-2193.	1.1	136
40	Three-dimensional characterization of electrodeposited lithium microstructures using synchrotron X-ray phase contrast imaging. <i>Chemical Communications</i> , 2015, 51, 266-268.	2.2	133
41	A new approach to correlate the defect population with the fatigue life of selective laser melted Ti-6Al-4V alloy. <i>International Journal of Fatigue</i> , 2020, 136, 105584.	2.8	133
42	Fatigue and Damage in Structural Materials Studied by X-Ray Tomography. <i>Annual Review of Materials Research</i> , 2012, 42, 81-103.	4.3	129
43	Correlative Tomography. <i>Scientific Reports</i> , 2014, 4, 4711.	1.6	124
44	Strain imaging by Bragg edge neutron transmission. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2002, 481, 765-768.	0.7	119
45	Multi Length Scale Microstructural Investigations of a Commercially Available Li-Ion Battery Electrode. <i>Journal of the Electrochemical Society</i> , 2012, 159, A1023-A1027.	1.3	118
46	Texture development in Ti-6Al-4V linear friction welds. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2007, 459, 182-191.	2.6	117
47	The determination of the elastic field of an ellipsoidal inclusion in a transversely isotropic medium, and its relevance to composite materials. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 1989, 59, 759-781.	0.7	116
48	A combined approach to microstructure mapping of an Al-Li AA2199 friction stir weld. <i>Acta Materialia</i> , 2011, 59, 3002-3011.	3.8	115
49	Non-destructive mapping of grain orientations in 3D by laboratory X-ray microscopy. <i>Scientific Reports</i> , 2015, 5, 14665.	1.6	114
50	Characterizing Phase Transformations and Their Effects on Ferritic Weld Residual Stresses with X-Rays and Neutrons. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2008, 39, 3070-3078.	1.1	111
51	The stress intensity of mixed mode cracks determined by digital image correlation. <i>Journal of Strain Analysis for Engineering Design</i> , 2008, 43, 769-780.	1.0	111
52	The analysis of internal strains measured by neutron diffraction in Al/SiC metal matrix composites. <i>Acta Metallurgica Et Materialia</i> , 1992, 40, 2361-2373.	1.9	108
53	Three dimensional observations and modelling of intergranular stress corrosion cracking in austenitic stainless steel. <i>Journal of Nuclear Materials</i> , 2006, 352, 62-74.	1.3	108
54	The effect of defects on the mechanical response of Ti-6Al-4V cubic lattice structures fabricated by electron beam melting. <i>Acta Materialia</i> , 2016, 108, 279-292.	3.8	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.	5.4	106
56	Microstructure mapping in friction stir welds of 7449 aluminium alloy using SAXS. Acta Materialia, 2006, 54, 4793-4801.	3.8	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.	3.8	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.	4.1	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.	6.2	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.	3.8	100
61	Residual stress driven creep cracking in AISI Type 316 stainless steel. Acta Materialia, 2008, 56, 3598-3612.	3.8	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.	2.6	95
63	X-ray computed tomography in life sciences. BMC Biology, 2020, 18, 21.	1.7	95
64	Weibull modelling of particle cracking in metal matrix composites. Acta Metallurgica Et Materialia, 1995, 43, 3685-3699.	1.9	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.	3.8	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.	2.1	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.	2.8	91
68	X-ray microtomographic observation of intergranular stress corrosion cracking in sensitised austenitic stainless steel. Materials Science and Technology, 2006, 22, 1068-1075.	0.8	91
69	Damage development in open-hole composite specimens in fatigue. Part 1: Experimental investigation. Composite Structures, 2013, 106, 882-889.	3.1	90
70	Lithiation-Induced Dilation Mapping in a Lithium-Ion Battery Electrode by 3D X-Ray Microscopy and Digital Volume Correlation. Advanced Energy Materials, 2014, 4, 1300506.	10.2	89
71	Engineering applications of Bragg-edge neutron transmission. Applied Physics A: Materials Science and Processing, 2002, 74, s1433-s1436.	1.1	88
72	Residual stress engineering in friction stir welds by roller tensioning. Science and Technology of Welding and Joining, 2009, 14, 185-192.	1.5	88

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73	The effect of particle distribution on damage formation in particulate reinforced metal matrix composites deformed in compression. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1996, 220, 41-56.	2.6	87
74	Importance of crystal orientation in linear friction joining of single crystal to polycrystalline nickel-based superalloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008, 491, 446-453.	2.6	86
75	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
76	Morphological Characterisation of Unstained and Intact Tissue Micro-architecture by X-ray Computed Micro- and Nano-Tomography. <i>Scientific Reports</i> , 2015, 5, 10074.	1.6	86
77	Corrosion fatigue lifetime assessment of high-speed railway axle EA4T steel with artificial scratch. <i>Engineering Fracture Mechanics</i> , 2021, 245, 107588.	2.0	86
78	Global mechanical tensioning for the management of residual stresses in welds. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008, 489, 351-362.	2.6	85
79	Evolution of damage during the fatigue of 3D woven glass-fibre reinforced composites subjected to tension-tension loading observed by time-lapse X-ray tomography. <i>Composites Part A: Applied Science and Manufacturing</i> , 2016, 82, 279-290.	3.8	85
80	Inertia welding nickel-based superalloy: Part I. Metallurgical characterization. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2002, 33, 3215-3225.	1.1	84
81	Neutron and synchrotron measurements of residual strain in TIG welded aluminium alloy 2024. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2003, 346, 159-167.	2.6	84
82	Region-of-interest tomography using filtered backprojection: assessing the practical limits. <i>Journal of Microscopy</i> , 2011, 241, 69-82.	0.8	83
83	Crystallographic effects on the corrosion of twin roll cast AZ31 Mg alloy sheet. <i>Acta Materialia</i> , 2017, 133, 90-99.	3.8	83
84	A comparison of inertia friction welds in three nickel base superalloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2006, 437, 38-45.	2.6	82
85	The sensitivity of Ni-based superalloy to hole making operations: Influence of process parameters on subsurface damage and residual stress. <i>Journal of Materials Processing Technology</i> , 2009, 209, 3968-3977.	3.1	82
86	Investigation of strain-rate effect on the compressive behaviour of closed-cell aluminium foam by 3D image-based modelling. <i>Materials and Design</i> , 2016, 89, 215-224.	3.3	82
87	The evolution of crack-tip stresses during a fatigue overload event. <i>Acta Materialia</i> , 2010, 58, 4039-4052.	3.8	81
88	Metamorphosis revealed: time-lapse three-dimensional imaging inside a living chrysalis. <i>Journal of the Royal Society Interface</i> , 2013, 10, 20130304.	1.5	80
89	The effect of density and feature size on mechanical properties of isostructural metallic foams produced by additive manufacturing. <i>Acta Materialia</i> , 2015, 85, 387-395.	3.8	80
90	Repeated crack healing in MAX-phase ceramics revealed by 4D in situ synchrotron X-ray tomographic microscopy. <i>Scientific Reports</i> , 2016, 6, 23040.	1.6	80

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91	Relaxation of residual stress in shot peened Udimet 720Li under high temperature isothermal fatigue. <i>International Journal of Fatigue</i> , 2005, 27, 1530-1534.	2.8	78
92	Mapping two-dimensional state of strain using synchrotron X-ray diffraction. <i>Scripta Materialia</i> , 1998, 39, 1705-1712.	2.6	77
93	The effect of β phase on microstructure and texture evolution during thermomechanical processing of $\alpha + \beta$ Ti alloy. <i>Acta Materialia</i> , 2013, 61, 3200-3213.	3.8	77
94	Comparison of residual stress distributions in conventional and stationary shoulder high-strength aluminum alloy friction stir welds. <i>Journal of Materials Processing Technology</i> , 2017, 242, 92-100.	3.1	77
95	Neutron and Synchrotron X-ray Strain Scanning. <i>Strain</i> , 2001, 37, 19-33.	1.4	76
96	Analysis of elastic strain and crystallographic texture in poled rhombohedral PZT ceramics. <i>Acta Materialia</i> , 2006, 54, 3075-3083.	3.8	76
97	Using Synchrotron X-Ray Nano-CT to Characterize SOFC Electrode Microstructures in Three-Dimensions at Operating Temperature. <i>Electrochemical and Solid-State Letters</i> , 2011, 14, B117.	2.2	76
98	The Measurement of Residual Stress in Railway Rails by Diffraction and other Methods *. <i>Journal of Neutron Research</i> , 2003, 11, 187-193.	0.4	75
99	Comparison of residual stresses in Ti-6Al-4V and Ti-6Al-2Sn-4Zr-2Mo linear friction welds. <i>Materials Science and Technology</i> , 2009, 25, 640-650.	0.8	74
100	Generation of micro-scale finite element models from synchrotron X-ray CT images for multidirectional carbon fibre reinforced composites. <i>Composites Part A: Applied Science and Manufacturing</i> , 2016, 91, 85-95.	3.8	74
101	Noncontact Characterization of Carbon-Fiber-Reinforced Plastics Using Multifrequency Eddy Current Sensors. <i>IEEE Transactions on Instrumentation and Measurement</i> , 2009, 58, 738-743.	2.4	73
102	The application of phase contrast X-ray techniques for imaging Li-ion battery electrodes. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2014, 324, 118-123.	0.6	73
103	Completing the picture through correlative characterization. <i>Nature Materials</i> , 2019, 18, 1041-1049.	13.3	73
104	Effects of fatigue and fretting on residual stresses introduced by laser shock peening. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2006, 435-436, 12-18.	2.6	72
105	3D chemical imaging in the laboratory by hyperspectral X-ray computed tomography. <i>Scientific Reports</i> , 2015, 5, 15979.	1.6	72
106	Fracture mechanics by three-dimensional crack-tip synchrotron X-ray microscopy. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2015, 373, 20130157.	1.6	72
107	The potency of defects on fatigue of additively manufactured metals. <i>International Journal of Mechanical Sciences</i> , 2022, 221, 107185.	3.6	72
108	High-resolution strain mapping in bulk samples using full-profile analysis of energy-dispersive synchrotron X-ray diffraction data. <i>Journal of Applied Crystallography</i> , 2004, 37, 883-889.	1.9	71

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109	Engineering the residual stress state and microstructure of stainless steel with mechanical surface treatments. <i>Applied Physics A: Materials Science and Processing</i> , 2010, 99, 549-556.	1.1	71
110	The variation in elastic modulus throughout the compression of foam materials. <i>Acta Materialia</i> , 2016, 110, 161-174.	3.8	71
111	Mapping fibre failure in situ in carbon fibre reinforced polymers by fast synchrotron X-ray computed tomography. <i>Composites Science and Technology</i> , 2017, 149, 81-89.	3.8	71
112	Dissimilar friction stir welds in AA5083-AA6082. Part II: Process parameter effects on microstructure. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2006, 37, 2195-2206.	1.1	70
113	Mapping residual and internal stress in materials by neutron diffraction. <i>Comptes Rendus Physique</i> , 2007, 8, 806-820.	0.3	70
114	Crystallographic texture and microstructure of pulsed diode laser-deposited Waspaloy. <i>Acta Materialia</i> , 2009, 57, 1220-1229.	3.8	70
115	X-ray computed tomography study of kink bands in unidirectional composites. <i>Composite Structures</i> , 2017, 160, 917-924.	3.1	69
116	Neutron-diffraction study of stress-induced martensitic transformation in TRIP steel. <i>Applied Physics A: Materials Science and Processing</i> , 2002, 74, s1143-s1145.	1.1	68
117	X-ray damage characterisation in self-healing fibre reinforced polymers. <i>Composites Part A: Applied Science and Manufacturing</i> , 2012, 43, 613-620.	3.8	68
118	Exploring microstructural changes associated with oxidation in Ni-YSZ SOFC electrodes using high resolution X-ray computed tomography. <i>Solid State Ionics</i> , 2012, 216, 69-72.	1.3	68
119	The effect of tensioning and sectioning on residual stresses in aluminium AA7749 friction stir welds. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008, 488, 16-24.	2.6	66
120	A novel architecture for pore network modelling with applications to permeability of porous media. <i>Journal of Hydrology</i> , 2013, 486, 246-258.	2.3	66
121	A neutron diffraction study of load partitioning in continuous Ti/SiC composites. <i>Acta Materialia</i> , 1998, 46, 6585-6598.	3.8	64
122	On the evolution of local material properties and residual stress in a three-pass SA508 steel weld. <i>Acta Materialia</i> , 2012, 60, 3268-3278.	3.8	64
123	Some experimental observations on crack closure and crack tip plasticity. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2009, 32, 418-429.	1.7	63
124	Evaluation of surface integrity in micro drilling process for nickel-based superalloy. <i>International Journal of Advanced Manufacturing Technology</i> , 2011, 55, 465-476.	1.5	63
125	Determination of the high temperature elastic properties and diffraction elastic constants of Ni-base superalloys. <i>Materials and Design</i> , 2016, 89, 856-863.	3.3	63
126	The deformation of discontinuously reinforced MMCs. I. The initial yielding behaviour. <i>Acta Metallurgica Et Materialia</i> , 1994, 42, 3425-3436.	1.9	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.	1.7	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.	2.8	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.	3.8	62
130	Defect evolution during high temperature tension-tension fatigue of SLM AISi10Mg alloy by synchrotron tomography. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 792, 139809.	2.6	62
131	Quantification of creep cavitation damage around a crack in a stainless steel pressure vessel. Acta Materialia, 2004, 52, 23-34.	3.8	60
132	Using pulsed neutron transmission for crystalline phase imaging and analysis. Journal of Applied Physics, 2005, 97, 074903.	1.1	60
133	Synchrotron X-ray residual strain scanning of a friction stir weld. Journal of Strain Analysis for Engineering Design, 2001, 36, 61-70.	1.0	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.	2.3	59
135	Surface Decoration for Improving the Accuracy of Displacement Measurements by Digital Image Correlation in SEM. Experimental Mechanics, 2012, 52, 793-804.	1.1	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.	3.8	59
137	In situ three-dimensional X-ray microtomography of an auxetic foam under tension. Scripta Materialia, 2009, 60, 232-235.	2.6	58
138	Residual stresses in face finish turning of high strength nickel-based superalloy. Journal of Materials Processing Technology, 2009, 209, 4896-4902.	3.1	58
139	Microstructural evolution during sintering of copper particles studied by laboratory diffraction contrast tomography (LabDCT). Scientific Reports, 2017, 7, 5251.	1.6	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.	1.7	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.	3.3	57
142	ENGIN â€™ A new instrument for engineers. Physica B: Condensed Matter, 1997, 234-236, 1141-1143.	1.3	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.	2.2	56
144	Modelling the effect of elastic and plastic anisotropies on stresses at grain boundaries. International Journal of Plasticity, 2014, 61, 49-63.	4.1	56

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145	High Pressure Interpass Rolling of Wire + Arc Additively Manufactured Titanium Components. <i>Advanced Materials Research</i> , 0, 996, 694-700.	0.3	55
146	Changes in the misfit stresses in an Al/SiCp metal matrix composite under plastic strain. <i>Acta Materialia</i> , 2002, 50, 1031-1040.	3.8	54
147	Residual stress relief in MAG welded joints of dissimilar steels. <i>International Journal of Pressure Vessels and Piping</i> , 2003, 80, 705-713.	1.2	54
148	Laser Shock Peening on Zr-based Bulk Metallic Glass and Its Effect on Plasticity: Experiment and Modeling. <i>Scientific Reports</i> , 2015, 5, 10789.	1.6	54
149	SparseBeads data: benchmarking sparsity-regularized computed tomography. <i>Measurement Science and Technology</i> , 2017, 28, 124005.	1.4	54
150	A synchrotron X-ray study of a Ti/SiCf composite during in situ straining. <i>Acta Materialia</i> , 2001, 49, 153-163.	3.8	53
151	Study of a Crack at a Fastener Hole by Digital Image Correlation. <i>Experimental Mechanics</i> , 2009, 49, 551-559.	1.1	53
152	Finite element process modelling of inertia friction welding advanced nickel-based superalloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2009, 513-514, 366-375.	2.6	53
153	Efficacy of active cooling for controlling residual stresses in friction stir welds. <i>Science and Technology of Welding and Joining</i> , 2010, 15, 156-165.	1.5	53
154	In situ 3D X-ray microtomography study comparing auxetic and non-auxetic polymeric foams under tension. <i>Physica Status Solidi (B): Basic Research</i> , 2011, 248, 45-51.	0.7	53
155	Reliability of Algorithms Interpreting Topological and Geometric Properties of Porous Media for Pore Network Modelling. <i>Transport in Porous Media</i> , 2019, 128, 271-301.	1.2	53
156	A synchrotron radiation study of transient internal strain changes during the early stages of thermal cycling in an Al / SiCw MMC. <i>Scripta Materialia</i> , 1996, 35, 1229-1234.	2.6	52
157	Microstructural development in Pt-aluminide coating on CMSX-4 superalloy during TMF. <i>Surface and Coatings Technology</i> , 1998, 107, 76-83.	2.2	52
158	In situ analysis of cracks in structural materials using synchrotron X-ray tomography and diffraction. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2006, 246, 217-225.	0.6	52
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