Ben Britton

List of Publications by Year in Descending Order

120 papers	4,726 citations	38 h-index	66 g-index
127 ext. papers	5,523 ext. citations	5.3 avg, IF	6.14 L-index

#	Paper	IF	Citations
120	In-situ diffraction based observations of slip near phase boundaries in titanium through micropillar compression. *Materials Characterization*, **2022**, 184, 111695	3.9	1
119	Optimizing broad ion beam polishing of zircaloy-4 for electron backscatter diffraction analysis. *Micron*, **2022**, 103268	2.3	0
118	Quantitative Precipitate Classification and Grain Boundary Property Control in Co/Ni-Base Superalloys. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2021**, 52, 1649	2.3	0
117	Fracture Energy Measurement of Prismatic Plane and Boundary in Cemented Carbide. *Jom*, **2021**, 73, 1589-1596	2.1	1
116	Development of local plasticity around voids during tensile deformation. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2021**, 814, 141227	5.3	0
115	Correlative statistical microstructural assessment of precipitates and their distribution, with simultaneous electron backscatter diffraction and energy dispersive X-ray spectroscopy. *Materials Characterization*, **2021**, 176, 111071	3.9	1
114	Effect of high temperature service on the complex through-wall microstructure of centrifugally cast HP40 reformer tube. *Materials Characterization*, **2021**, 177, 111070	3.9	3
113	Intermetallic size and morphology effects on creep rate of Sn-3Ag-0.5Cu solder. *International Journal of Plasticity*, **2021**, 137, 102904	7.6	6
112	TrueEBSD: Correcting spatial distortions in electron backscatter diffraction maps. *Ultramicroscopy*, **2021**, 221, 113130	3.1	3
111	The Role of Lengthscale in the Creep of Sn-3Ag-0.5Cu Solder Microstructures. *Journal of Electronic Materials*, **2021**, 50, 926-938	1.9	3
110	Gender issues in fundamental physics: Strumia bibliometric analysis fails to account for key confounders and confuses correlation with causation. *Quantitative Science Studies*, **2021**, 2, 263-272	3.8	2
109	In-situ study of creep in Sn-3Ag-0.5Cu solder. *Acta Materialia*, **2020**, 196, 31-43	8.4	4
108	Advancing characterisation with statistics from correlative electron diffraction and X-ray spectroscopy, in the scanning electron microscope. *Ultramicroscopy*, **2020**, 211, 112944	3.1	5
107	Investigating spatio-temporal deformation in single crystal Ni-based superalloys using in-situ diffraction experiments and modelling. *Materialia*, **2020**, 9, 100635	3.2	1
106	Micromechanical approaches to understand dwell fatigue: from titanium a-b microstructures to disc thermal alleviation. *MATEC Web of Conferences*, **2020**, 321, 04004	0.3	
105	Dislocation density distribution at slip band-grain boundary intersections. *Acta Materialia*, **2020**, 182, 172-183	8.4	28
104	Spherical-angular dark field imaging and sensitive microstructural phase clustering with unsupervised machine learning. *Ultramicroscopy*, **2020**, 219, 113132	3.1	1

103	Slip–hydride interactions in Zircaloy-4: Multiscale mechanical testing and characterisation. *Acta Materialia*, **2020**, 200, 537-550	8.4	4
102	In-situ electron backscatter diffraction of thermal cycling in a single grain Cu/Sn-3Ag-0.5Cu/Cu solder joint. *Scripta Materialia*, **2020**, 175, 55-60	5.6	6
101	Characterisation of carbonaceous deposits on diesel injector nozzles. *Fuel*, **2020**, 274, 117629	7.1	2
100	Mechanical and microstructural testing of wire and arc additively manufactured sheet material. *Materials and Design*, **2020**, 192, 108675	8.1	35
99	Variable temperature micropillar compression to reveal basal slip properties of Zircaloy-4. *Scripta Materialia*, **2019**, 162, 451-455	5.6	8
98	Indexing Electron Backscatter Diffraction Patterns with a Refined Template Matching Approach. *Microscopy and Microanalysis*, **2019**, 25, 1962-1963	0.5	3
97	The effect of δ-hydride on the micromechanical deformation of a Zr alloy studied by in situ high angular resolution electron backscatter diffraction. *Scripta Materialia*, **2019**, 173, 101-105	5.6	5
96	Gazing at crystal balls: Electron backscatter diffraction pattern analysis and cross correlation on the sphere. *Ultramicroscopy*, **2019**, 207, 112836	3.1	24
95	Evaluating Creep Deformation in Controlled Microstructures of Sn-3Ag-0.5Cu Solder. *Journal of Electronic Materials*, **2019**, 48, 107-121	1.9	5
94	New techniques for imaging and identifying defects in electron microscopy. *MRS Bulletin*, **2019**, 44, 450-458	3.2	6
93	Constraints on the effective electron energy spectrum in backscatter Kikuchi diffraction. *Physical Review B*, **2019**, 99,	3.3	11
92	Quantification Challenges for Atom Probe Tomography of Hydrogen and Deuterium in Zircaloy-4. *Microscopy and Microanalysis*, **2019**, 25, 481-488	0.5	22
91	High-Angular Resolution Electron Backscatter Diffraction as a New Tool for Mapping Lattice Distortion in Geological Minerals. *Journal of Geophysical Research: Solid Earth*, **2019**, 124, 6337-6358	3.6	14
90	Microstructure and Formation Mechanisms of δ-Hydrides in Variable Grain Size Zircaloy-4 Studied by Electron Backscatter Diffraction. *Microscopy and Microanalysis*, **2019**, 25, 1588-1589	0.5	
89	Indexing electron backscatter diffraction patterns with a refined template matching approach. *Ultramicroscopy*, **2019**, 207, 112845	3.1	19
88	Microstructure and formation mechanisms of δ-hydrides in variable grain size Zircaloy-4 studied by electron backscatter diffraction. *Acta Materialia*, **2019**, 169, 76-87	8.4	21
87	The effect of cooling rate and grain size on hydride microstructure in Zircaloy-4. *Journal of Nuclear Materials*, **2019**, 513, 221-225	3.3	18
86	Rapid electron backscatter diffraction mapping: Painting by numbers. *Materials Characterization*, **2019**, 147, 271-279	3.9	9

85	The role of □titanium ligaments in the deformation of dual phase titanium alloys. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2019**, 746, 394-405	5.3	16
84	Deformation behaviour of [001] oriented MgO using combined in-situ nano-indentation and micro-Laue diffraction. *Acta Materialia*, **2018**, 145, 516-531	8.4	8
83	Stress induced martensite variants revealed by in situ high resolution electron backscatter diffraction (HR-EBSD). *Materials and Design*, **2018**, 151, 83-88	8.1	4
82	Space rocks and optimising scanning electron channelling contrast. *Materials Characterization*, **2018**, 142, 422-431	3.9	12
81	Atomic scale analysis of grain boundary deuteride growth front in Zircaloy-4. *Scripta Materialia*, **2018**, 156, 42-46	5.6	25
80	Residual stress and adhesion of thermal spray coatings: Microscopic view by solidification and crystallisation analysis in the epitaxial CoNiCrAlY single splat. *Materials and Design*, **2018**, 153, 36-46	8.1	15
79	Direct volumetric measurement of crystallographic texture using acoustic waves. *Acta Materialia*, **2018**, 159, 384-394	8.4	8
78	Understanding deformation with high angular resolution electron backscatter diffraction (HR-EBSD). *IOP Conference Series: Materials Science and Engineering*, **2018**, 304, 012003	0.4	17
77	Strain rate sensitivity in commercial pure titanium: The competition between slip and deformation twinning. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2018**, 734, 385-397	5.3	32
76	In situ study of strontium segregation in La0.6Sr0.4Co0.2Fe0.8O3□n ambient atmospheres using high-temperature environmental scanning electron microscopy. *Journal of Materials Chemistry A*, **2018**, 6, 14120-14135	13	52
75	AstroEBSD: exploring new space in pattern indexing with methods launched from an astronomical approach. *Journal of Applied Crystallography*, **2018**, 51, 1525-1534	3.8	17
74	Data on a new beta titanium alloy system reinforced with superlattice intermetallic precipitates. *Data in Brief*, **2018**, 17, 863-869	1.2	
73	Formation of very large □locky alpha□grains in Zircaloy-4. *Acta Materialia*, **2017**, 129, 510-520	8.4	35
72	Toward Predictive Understanding of Fatigue Crack Nucleation in Ni-Based Superalloys. *Jom*, **2017**, 69, 863-871	2.1	11
71	Using transmission Kikuchi diffraction to characterise □variants in an □□titanium alloy. *Journal of Microscopy*, **2017**, 267, 318-329	1.9	13
70	Comment on □An Experimental Study on Evolution of Grain-Scale Stress/Strain and Geometrical Necessary Dislocations in Advanced TA15 Titanium Alloy during Uniaxial Tension Deformation□ *Advanced Engineering Materials*, **2017**, 19, 1700051	3.5	3
69	The effect of the beta phase on the micromechanical response of dual-phase titanium alloys. *International Journal of Fatigue*, **2017**, 100, 377-387	5	28
68	Growth of {112□2} twins in titanium: A combined experimental and modelling investigation of the local state of deformation. *Acta Materialia*, **2017**, 126, 221-235	8.4	58

67	Dislocation Interactions in Olivine Revealed by HR-EBSD. *Journal of Geophysical Research: Solid Earth*, **2017**, 122, 7659-7678	3.6	17
66	A new beta titanium alloy system reinforced with superlattice intermetallic precipitates. *Scripta Materialia*, **2017**, 140, 71-75	5.6	10
65	In situ stable crack growth at the micron scale. *Nature Communications*, **2017**, 8, 108	17.4	33
64	The development of high strength brazing technique for Ti-6Al-4V using TiZrCuNi amorphous filler. *Materials Characterization*, **2017**, 131, 526-531	3.9	19
63	Crystal plasticity modelling and HR-DIC measurement of slip activation and strain localization in single and oligo-crystal Ni alloys under fatigue. *International Journal of Plasticity*, **2017**, 88, 70-88	7.6	77
62	A Chemical and Morphological Study of Diesel Injector Nozzle Deposits - Insights into their Formation and Growth Mechanisms. *SAE International Journal of Fuels and Lubricants*, **2017**, 10, 106-114	1.8	9
61	Microstructurally sensitive crack nucleation around inclusions in powder metallurgy nickel-based superalloys. *Acta Materialia*, **2016**, 117, 333-344	8.4	66
60	On the nucleation and growth of {112□2} twin in commercial purity titanium: In situ investigation of the local stress field and dislocation density distribution. *Acta Materialia*, **2016**, 120, 292-301	8.4	31
59	Using coupled micropillar compression and micro-Laue diffraction to investigate deformation mechanisms in a complex metallic alloy Al13Co4. *Applied Physics Letters*, **2016**, 108, 111902	3.4	8
58	Stress Concentrations, Slip Bands and Grain Boundaries In Commercially Pure Titanium **2016**, 1017-1021		1
57	Crack nucleation using combined crystal plasticity modelling, high-resolution digital image correlation and high-resolution electron backscatter diffraction in a superalloy containing non-metallic inclusions under fatigue. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2016**, 472, 20150792	2.4	40
56	Tutorial: Crystal orientations and EBSD □Or which way is up?. *Materials Characterization*, **2016**, 117, 113-126	3.9	83
55	Local strain rate sensitivity of single □phase within a dual-phase Ti alloy. *Acta Materialia*, **2016**, 107, 298-309	8.4	63
54	Geometrically necessary dislocation densities in olivine obtained using high-angular resolution electron backscatter diffraction. *Ultramicroscopy*, **2016**, 168, 34-45	3.1	52
53	Local deformation mechanisms of two-phase Ti alloy. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2016**, 649, 39-47	5.3	53
52	Deformation compatibility in a single crystalline Ni superalloy. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2016**, 472, 20150690	2.4	28
51	Evaluation of Local Rate Sensitivity in a Dwell-Sensitive Ti6242 Using Micropillar Compression **2016**, 498-498		1
50	Synthesis and interfacial activity of petroleum sulfonate. *Petroleum Science and Technology*, **2016**, 34, 517-522	1.4	1

49	A nanoindentation investigation of local strain rate sensitivity in dual-phase Ti alloys. *Journal of Alloys and Compounds*, **2016**, 672, 282-291	5.7	59
48	Interfacial activity of alkyl hydroxyl sulfobetaine against crude oil. *Petroleum Science and Technology*, **2016**, 34, 587-592	1.4	1
47	Determination of Ti-6242 and slip properties using micro-pillar test and computational crystal plasticity. *Journal of the Mechanics and Physics of Solids*, **2016**, 95, 393-410	5	73
46	Intrinsic anisotropy of strain rate sensitivity in single crystal alpha titanium. *Acta Materialia*, **2016**, 118, 317-330	8.4	63
45	On the mechanistic basis of fatigue crack nucleation in Ni superalloy containing inclusions using high resolution electron backscatter diffraction. *Acta Materialia*, **2015**, 97, 367-379	8.4	51
44	Slip localization and fatigue crack nucleation near a non-metallic inclusion in polycrystalline nickel-based superalloy. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2015**, 641, 328-339	5.3	48
43	The orientation and strain dependence of dislocation structure evolution in monotonically deformed polycrystalline copper. *International Journal of Plasticity*, **2015**, 69, 102-117	7.6	65
42	In situ micropillar deformation of hydrides in Zircaloy-4. *Acta Materialia*, **2015**, 92, 81-96	8.4	32
41	The effect of pattern overlap on the accuracy of high resolution electron backscatter diffraction measurements. *Ultramicroscopy*, **2015**, 155, 62-73	3.1	26
40	Mechanical and microstructural investigations of tungsten and doped tungsten materials produced via powder injection molding. *Nuclear Materials and Energy*, **2015**, 3-4, 22-31	2.1	46
39	Heterogeneous nucleation of Cu6Sn5 in Sn□Cu□Al solders. *Journal of Alloys and Compounds*, **2015**, 619, 345-355	5.7	41
38	Measurements of stress fields near a grain boundary: Exploring blocked arrays of dislocations in 3D. *Acta Materialia*, **2015**, 96, 229-236	8.4	54
37	Analysis of Dislocation Densities using High Resolution Electron Backscatter Diffraction. *Microscopy and Microanalysis*, **2015**, 21, 1891-1892	0.5	
36	Pattern Overlap and High Resolution Electron Backscatter Diffraction. *Microscopy and Microanalysis* , **2015**, 21, 2045-2046	0.5	
35	<a> Prismatic, <a> basal, and <c+a> slip strengths of commercially pure Zr by micro-cantilever tests. *Acta Materialia*, **2015**, 96, 249-257	8.4	100
34	Evolution of intragranular stresses and dislocation densities during cyclic deformation of polycrystalline copper. *Acta Materialia*, **2015**, 94, 193-204	8.4	48
33	On the mechanistic basis of deformation at the microscale in hexagonal close-packed metals. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2015**, 471, 20140881	2.4	95
32	Effect of dislocation density on improved radiation hardening resistance of nano-structured tungsten□henium. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2014**, 611, 388-393	5.3	32

31	Slip band–grain boundary interactions in commercial-purity titanium. *Acta Materialia*, **2014**, 76, 1-12	8.4	177
30	High-resolution characterization of microstructural evolution in RbxFe2−ySe2 crystals on annealing. *Physical Review B*, **2014**, 90,	3.3	19
29	Measurement of probability distributions for internal stresses in dislocated crystals. *Applied Physics Letters*, **2014**, 105, 181907	3.4	23
28	A review of advances and challenges in EBSD strain mapping. *IOP Conference Series: Materials Science and Engineering*, **2014**, 55, 012020	0.4	26
27	In-service materials support for safety critical applications – A case study of a high strength Ti-alloy using advanced experimental and modelling techniques. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2014**, 599, 166-173	5.3	24
26	Direct detection of electron backscatter diffraction patterns. *Physical Review Letters*, **2013**, 111, 065506	7.4	36
25	Probing Deformation and Revealing Microstructural Mechanisms with Cross-Correlation-Based, High-Resolution Electron Backscatter Diffraction. *Jom*, **2013**, 65, 1245-1253	2.1	23
24	High-efficiency high-power QCW diode-side-pumped zigzag Nd:YAG ceramic slab laser. *Applied Physics B: Lasers and Optics*, **2013**, 111, 111-116	1.9	16
23	Assessing the precision of strain measurements using electron backscatter diffraction--part 1: detector assessment. *Ultramicroscopy*, **2013**, 135, 126-35	3.1	35
22	Evolution of dislocation density distributions in copper during tensile deformation. *Acta Materialia*, **2013**, 61, 7227-7239	8.4	149
21	Assessing the precision of strain measurements using electron backscatter diffraction--part 2: experimental demonstration. *Ultramicroscopy*, **2013**, 135, 136-41	3.1	21
20	Measurement of geometrically necessary dislocation density with high resolution electron backscatter diffraction: effects of detector binning and step size. *Ultramicroscopy*, **2013**, 125, 1-9	3.1	166
19	Mapping type III intragranular residual stress distributions in deformed copper polycrystals. *Acta Materialia*, **2013**, 61, 5895-5904	8.4	37
18	Controlling the orientation, edge geometry, and thickness of chemical vapor deposition graphene. *ACS Nano*, **2013**, 7, 1351-9	16.7	159
17	High resolution electron backscatter diffraction measurements of elastic strain variations in the presence of larger lattice rotations. *Ultramicroscopy*, **2012**, 114, 82-95	3.1	128
16	Strains, planes, and EBSD in materials science. *Materials Today*, **2012**, 15, 366-376	21.8	217
15	Stress fields and geometrically necessary dislocation density distributions near the head of a blocked slip band. *Acta Materialia*, **2012**, 60, 5773-5782	8.4	126
14	Microstructural analysis of phase separation in iron chalcogenide superconductors. *Superconductor Science and Technology*, **2012**, 25, 084023	3.1	47

13	Accumulation of geometrically necessary dislocations near grain boundaries in deformed copper. *Philosophical Magazine Letters*, **2012**, 92, 580-588	1	36
12	Uniform hexagonal graphene flakes and films grown on liquid copper surface. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 7992-6	11.5	351
11	Analysis of local chemical and structural inhomogeneities in FeySe1−xTex single crystals. *Applied Physics Letters*, **2011**, 99, 192504	3.4	14
10	Measurement of residual elastic strain and lattice rotations with high resolution electron backscatter diffraction. *Ultramicroscopy*, **2011**, 111, 1395-404	3.1	121
9	Geometrically necessary dislocation density distributions in Ti–6Al–4V deformed in tension. *Acta Materialia*, **2011**, 59, 6489-6500	8.4	98
8	A 200 W diode-side-pumped CW 2 μm Tm:YAG laser with water cooling at 8°C. *Applied Physics B: Lasers and Optics*, **2011**, 103, 83-88	1.9	20
7	High-resolution electron backscatter diffraction: An emerging tool for studying local deformation. *Journal of Strain Analysis for Engineering Design*, **2010**, 45, 365-376	1.3	67
6	The effect of crystal orientation on the indentation response of commercially pure titanium: experiments and simulations. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2010**, 466, 695-719	2.4	135
5	Factors affecting the accuracy of high resolution electron backscatter diffraction when using simulated patterns. *Ultramicroscopy*, **2010**, 110, 1443-53	3.1	107
4	Electron backscatter diffraction study of dislocation content of a macrozone in hot-rolled Ti–6Al–4V alloy. *Scripta Materialia*, **2010**, 62, 639-642	5.6	109
3	Nanoindentation study of slip transfer phenomenon at grain boundaries. *Journal of Materials Research*, **2009**, 24, 607-615	2.5	85
2	Fabrication and Field-Emission Properties of Large-Area Nanostructures of the Organic Charge-Transfer Complex Cu-TCNAQ. *Advanced Materials*, **2008**, 20, 309-313	24	65
1	Influence of self-assembly monolayers on the characteristics of copper phthalacyanine thin film transistor. *Applied Physics A: Materials Science and Processing*, **2005**, 80, 1541-1545	2.6	30