

David S Wilkinson

List of Publications by Year in descending order

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120
papers

4,962
citations

94433

37
h-index

95266

68
g-index

123
all docs

123
docs citations

123
times ranked

3067
citing authors

#	ARTICLE	IF	CITATIONS
1	Threshold stresses for dislocation climb over hard particles: The effect of an attractive interaction. <i>Acta Metallurgica</i> , 1986, 34, 1893-1898.	2.1	375
2	Digital image correlation studies for microscopic strain distribution and damage in dual phase steels. <i>Scripta Materialia</i> , 2007, 56, 999-1002.	5.2	277
3	Effect of martensite distribution on damage behaviour in DP600 dual phase steels. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2009, 516, 7-16.	5.6	274
4	The Portevin-Le Chatelier (PLC) effect and shear band formation in an AA5754 alloy. <i>Acta Materialia</i> , 2007, 55, 4151-4160.	7.9	235
5	Plastic flow and fracture of a particulate metal matrix composite. <i>Acta Materialia</i> , 1996, 44, 3465-3476.	7.9	198
6	On the mechanism of strain-enhanced grain growth during superplastic deformation. <i>Acta Metallurgica</i> , 1984, 32, 1335-1345.	2.1	179
7	Visualization by X-ray tomography of void growth and coalescence leading to fracture in model materials. <i>Acta Materialia</i> , 2008, 56, 2919-2928.	7.9	149
8	Experimental investigation of void coalescence in metallic sheets containing laser drilled holes. <i>Acta Materialia</i> , 2008, 56, 1774-1784.	7.9	147
9	The influence of particle distribution on the mechanical response of a particulate metal matrix composite. <i>Acta Metallurgica Et Materialia</i> , 1994, 42, 1311-1318.	1.8	139
10	Creep deformation due to a viscous grain boundary phase. <i>Acta Metallurgica</i> , 1989, 37, 2007-2015.	2.1	122
11	Mechanisms of hot-isostatic pressing. <i>Acta Metallurgica</i> , 1983, 31, 1829-1840.	2.1	119
12	Laser drilling of high aspect ratio holes in copper with femtosecond, picosecond and nanosecond pulses. <i>Applied Physics A: Materials Science and Processing</i> , 2008, 90, 537-543.	2.3	119
13	On the sequence of inhomogeneous deformation processes occurring during tensile deformation of strip cast AA5754. <i>Acta Materialia</i> , 2006, 54, 209-218.	7.9	118
14	High-density three-dimensional mapping of internal strain by tracking microstructural features. <i>Acta Materialia</i> , 2008, 56, 2167-2181.	7.9	117
15	CVD Technique for Inco Nickel Foam Production. <i>Advanced Engineering Materials</i> , 2004, 6, 454-459.	3.5	115
16	Large strain behaviour of a superplastic copper alloy. <i>Acta Metallurgica</i> , 1984, 32, 415-422.	2.1	113
17	Tensile properties and bendability of T4 treated AA6111 aluminum alloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2004, 369, 258-266.	5.6	92
18	Synthesis and processing of hydroxyapatite ceramic tapes with controlled porosity. <i>Journal of Materials Science: Materials in Medicine</i> , 1995, 6, 19-23.	3.6	90

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19	Creep Mechanisms in Multiphase Ceramic Materials. <i>Journal of the American Ceramic Society</i> , 1998, 81, 275-299.	3.8	90
20	Effect of asymmetric rolling on the texture and mechanical properties of AA6111-aluminum sheet. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2005, 36, 3141-3149.	2.2	83
21	Creep and Creep Fracture in Hot-Pressed Alumina. <i>Journal of the American Ceramic Society</i> , 1991, 74, 915-921.	3.8	81
22	Chemistry and sintering behaviour of thin hydroxyapatite ceramics with controlled porosity. <i>Biomaterials</i> , 1995, 16, 403-408.	11.4	75
23	Crystallization of Ytria-Alumina-Silica Glasses. <i>Journal of the American Ceramic Society</i> , 1992, 75, 3315-3320.	3.8	63
24	Creep Behavior of a Sintered Silicon Nitride. <i>Journal of the American Ceramic Society</i> , 1993, 76, 385-396.	3.8	60
25	Modeling the mechanical behaviour of heterogeneous multi-phase materials. <i>Progress in Materials Science</i> , 2001, 46, 379-405.	32.8	60
26	Processing of Tape-Cast Laminates Prepared from Fine Alumina/Zirconia Powders. <i>Journal of the American Ceramic Society</i> , 1994, 77, 2145-2153.	3.8	57
27	Creep Due to a Non-Newtonian Grain Boundary Phase. <i>Journal of the American Ceramic Society</i> , 1992, 75, 2327-2334.	3.8	54
28	In-situ measurement of local strain partitioning in a commercial dual-phase steel. <i>International Journal of Materials Research</i> , 2007, 98, 664-673.	0.3	49
29	Strain localization and damage development during bending of Al-Mg alloy sheets. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2012, 550, 395-407.	5.6	49
30	Onset of void coalescence in uniaxial tension studied by continuous X-ray tomography. <i>Acta Materialia</i> , 2013, 61, 1021-1036.	7.9	49
31	Constitutive Behavior of AA5754 Sheet Materials at Large Strains. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2008, 130, .	1.4	47
32	Effect of type-B Portevin-Le Chatelier bands on the onset of necking in uniaxial tension of strip cast AA5754 sheets. <i>Scripta Materialia</i> , 2005, 53, 499-503.	5.2	46
33	The effect of microstructure on damage and fracture in AZ31B and ZEK100 magnesium alloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016, 658, 33-41.	5.6	46
34	Effects of void fraction on void growth and linkage in commercially pure magnesium. <i>Acta Materialia</i> , 2016, 113, 68-80.	7.9	44
35	Microstructural analysis of ductility and fracture in fine-grained and ultrafine-grained vanadium-added DP1300 steels. <i>International Journal of Plasticity</i> , 2019, 117, 58-70.	8.8	43
36	Strength and ductility of as-plated and sintered CVD nickel foams. <i>Composites Science and Technology</i> , 2003, 63, 2317-2329.	7.8	41

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37	A model for damage coalescence in heterogeneous multi-phase materials. <i>Acta Materialia</i> , 2004, 52, 5255-5263.	7.9	39
38	Effect of triaxiality on void growth and coalescence in model materials investigated by X-ray tomography. <i>Acta Materialia</i> , 2012, 60, 2829-2839.	7.9	38
39	On the damage and fracture of commercially pure magnesium using x-ray microtomography. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016, 676, 146-155.	5.6	37
40	Damage and Fracture Mechanisms During High-Temperature Creep in Hot-Pressed Alumina. <i>Journal of the American Ceramic Society</i> , 1991, 74, 922-933.	3.8	36
41	Effects of void band orientation and crystallographic anisotropy on void growth and coalescence. <i>Journal of the Mechanics and Physics of Solids</i> , 2016, 95, 270-283.	4.8	35
42	Effect of inhomogeneous deformation on anisotropy of AZ31 magnesium sheet. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013, 567, 101-109.	5.6	33
43	Redistribution of a Grain-Boundary Glass Phase during Creep of Silicon Nitride Ceramics. <i>Journal of the American Ceramic Society</i> , 1997, 80, 685-691.	3.8	25
44	High-Resolution Electron Microscopy Investigation of Viscous Flow Creep in a High-Purity Silicon Nitride. <i>Journal of the American Ceramic Society</i> , 1999, 82, 1492-1496.	3.8	24
45	Modeling the interaction between creep deformation and scale growth process. <i>Acta Materialia</i> , 2007, 55, 189-201.	7.9	23
46	Effect of processing route on the spatial distributions of constituent particles and their role in the fracture process in AA5754 alloy sheet materials. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2007, 456, 85-92.	5.6	23
47	Microstructural Evolution During Deformation of a QP980 Steel. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2020, 51, 4524-4539.	2.2	22
48	2D and 3D characterization of pore defects in die cast AM60. <i>Materials Characterization</i> , 2016, 114, 254-262.	4.4	21
49	Effect of Devitrification on Creep Deformation in Glass-Containing Ceramics. <i>Journal of the American Ceramic Society</i> , 1988, 71, 562-565.	3.8	20
50	Microstructural Evolution in Annealed and Crept Silicon Nitride. <i>Journal of the American Ceramic Society</i> , 1993, 76, 376-384.	3.8	20
51	Development of a heterogeneous microstructurally based finite element model for the prediction of forming limit diagram for sheet material. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2006, 37, 3489-3501.	2.2	20
52	The influence of particle shape, volume fraction and distribution on post-necking deformation and fracture in uniaxial tension of AA5754 sheet materials. <i>International Journal of Solids and Structures</i> , 2009, 46, 2650-2658.	2.7	20
53	Effect of adhesive on fatigue property of Aural2 to AA5754 dissimilar aluminum alloy resistance spot welds. <i>Engineering Failure Analysis</i> , 2016, 69, 57-65.	4.0	20
54	A parametric finite element study and an analytical model of particle distributions on post-necking deformation and failure mode in AA5754 aluminum alloy sheets. <i>International Journal of Fracture</i> , 2010, 164, 167-183.	2.2	19

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55	The role of microstructure on edge cracks in dual phase and quench and partitioning steels subject to severe cold rolling. <i>Scripta Materialia</i> , 2019, 173, 86-90.	5.2	19
56	Characterization of Bendability in Automotive Aluminum Alloy Sheets. <i>Materials Science Forum</i> , 2000, 331-337, 583-588.	0.3	18
57	Shear Localization and Damage in AA5754 Aluminum Alloy Sheets. <i>Journal of Materials Engineering and Performance</i> , 2008, 17, 395-401.	2.5	18
58	Effect of Mg content on Portevinâ€“Le Chatelier band strain in Alâ€“Mg sheet alloys. <i>Philosophical Magazine Letters</i> , 2012, 92, 647-655.	1.2	17
59	Void growth and coalescence in model materials investigated by high-resolution X-ray microtomography. <i>International Journal of Fracture</i> , 2013, 181, 51-66.	2.2	17
60	Characterization of Pore Defects and Fatigue Cracks in Die Cast AM60 Using 3D X-ray Computed Tomography. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2015, 46, 1576-1585.	2.1	17
61	Strength of Tape Cast and Laminated Ceramics. <i>Journal of the American Ceramic Society</i> , 1995, 78, 1580-1584.	3.8	16
62	Numerical simulations of void linkage in model materials using a nonlocal ductile damage approximation. <i>International Journal of Fracture</i> , 2007, 148, 205-219.	2.2	16
63	Microstructural characterization of a microwave-sintered silicon nitride based ceramic. <i>Journal of Materials Research</i> , 1995, 10, 1387-1396.	2.6	15
64	Impact of microstructure on void growth and linkage in pure magnesium. <i>International Journal of Fracture</i> , 2016, 200, 31-47.	2.2	15
65	Effect of substrate pre-coating on adhesion of sintered nickel plaques for electrode application in rechargeable batteries. <i>Journal of Power Sources</i> , 2005, 142, 370-381.	7.8	14
66	Deformation inhomogeneity in large-grained AA5754 sheets. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2011, 528, 4187-4198.	5.6	14
67	Fatigue Behavior of Dissimilar Aluminum Alloy Spot Welds. <i>Procedia Engineering</i> , 2015, 114, 149-156.	1.2	14
68	Multi-scale morphological characterization of Ni foams with directional pores. <i>Materials Characterization</i> , 2019, 158, 109939.	4.4	14
69	MoSi ₂ -Based Sandwich Composite Made by Tape Casting. <i>Journal of the American Ceramic Society</i> , 1995, 78, 2967-2972.	3.8	13
70	Sintering and Microstructure Modification of Mullite/Zirconia Composites Derived from Silica-Coated Alumina Powders. <i>Journal of the American Ceramic Society</i> , 2001, 84, 850-858.	3.8	13
71	Modeling the influence of grain-level matrix inhomogeneity on strain localization in the presence of hard particles. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2007, 15, 893-909.	2.0	13
72	Modeling Strain Localization Using a Plane Stress Two-Particle Model and the Influence of Grain Level Matrix Inhomogeneity. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2008, 130, .	1.4	12

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73	Microstructural Aspects of Damage and Fracture in AZ31 Sheet Materials. Journal of Materials Engineering and Performance, 2013, 22, 1386-1395.	2.5	12
74	Microstructural design for damage tolerance in high strength steels. Materials Letters, 2020, 269, 127664.	2.6	12
75	A model for the effect of creep deformation and intrinsic growth stress on oxide/nitride scale growth rates with application to the nitridation of \hat{I}^3 -TiAl. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2006, 415, 94-103.	5.6	11
76	The Effect of Porosity on Fatigue of Die Cast AM60. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 3464-3472.	2.2	11
77	Effective approaches towards microstructural strain mapping of AZ31B Mg sheet material using digital image correlation. Optics and Lasers in Engineering, 2018, 102, 17-25.	3.8	10
78	Stress Development Due to Capillary Condensation in Powder Compacts: A Two-Dimensional Model Study. Journal of the American Ceramic Society, 2000, 83, 1333-1340.	3.8	9
79	Thickness Alteration of Grain-Boundary Amorphous Films during Creep of a Multiphase Silicon Nitride Ceramic. Journal of the American Ceramic Society, 2001, 84, 1296-1300.	3.8	9
80	4D X-ray tomography characterization of void nucleation and growth during deformation of strontium-added AZ31 alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 797, 140081.	5.6	9
81	Creep Mechanisms in Silicon Nitride Ceramics. , 1994, , 327-338.		8
82	Effect of thermomechanical processing on grain structure development in a twin-belt strip cast automotive aluminum alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2004, 35, 949-952.	2.2	7
83	Creep-driven nitride scale growth in \hat{I}^3 -TiAl. Acta Materialia, 2007, 55, 251-260.	7.9	7
84	A novel approach to producing architected ultra-high strength dual phase steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 833, 142582.	5.6	7
85	A Unified Finite Element Approach for the Study of Postyielding Deformation Behavior of Formable Sheet Materials. Journal of Pressure Vessel Technology, Transactions of the ASME, 2007, 129, 689-697.	0.6	6
86	Fuel cap stamping simulation of AA5754 sheets using a microstructure based macro-micro multi-scale approach. Computational Materials Science, 2015, 98, 354-365.	3.0	6
87	In-situ X-ray tomography analysis of the evolution of pores during deformation of a Cu-Sn alloy fabricated by selective laser melting. Additive Manufacturing, 2020, 34, 101196.	3.0	6
88	Modeling the Role of Microstructure on Shear Instability with Reference to the Formability of Automotive Aluminium Alloys. Materials Science Forum, 2006, 519-521, 183-190.	0.3	5
89	Measurement of 3-D Strain Distribution by means of High-Resolution X-ray CT Image and Tracking of Microstructural Features. Nippon Kinzoku Gakkaishi/Journal of the Japan Institute of Metals, 2007, 71, 181-186.	0.4	5
90	On the Calculation of Volume Fraction of Texture Components in AA5754 Sheet Materials. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2008, 39, 2007-2013.	2.2	5

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91	Anelastic Behavior Modeling of SiC Whisker-Reinforced Al ₂ O ₃ . Journal of the American Ceramic Society, 2010, 93, 857-864.	3.8	5
92	Tape Cast Al ₂ O ₃ /ZrO ₂ Composite Laminates. Ceramic Engineering and Science Proceedings, 0, , 873-880.	0.1	5
93	Microstructural Inhomogeneity and the Strength of Particulate Metal Matrix Composites. Solid Mechanics and Its Applications, 1996, , 347-354.	0.2	5
94	Microstructural Characterisation of Microwave Sintered Silicon Nitride Ceramics. Materials Research Society Symposia Proceedings, 1992, 287, 289.	0.1	4
95	Experimental and Numerical Study of Intense Shear Banding for Al-Alloy under Uniaxial Tension. Advanced Materials Research, 2005, 6-8, 737-744.	0.3	4
96	Processing and Properties of Alumina-Graphite Platelet Composites. Journal of the American Ceramic Society, 1995, 78, 1198-1200.	3.8	3
97	Effects of Porosity on the Superplastic Properties of Submicronic Alumina-Zirconia Composites. Materials Science Forum, 1996, 243-245, 411-416.	0.3	3
98	Investigation of Anelastic Creep Recovery in SiC Whisker-Reinforced Alumina Composites. Journal of the American Ceramic Society, 2005, 88, 3104-3109.	3.8	3
99	Investigation on Mechanism of Ductile Fracture of AA5754 Sheet. Materials Science Forum, 2006, 519-521, 985-990.	0.3	3
100	Modelling of Damage in Particulate Metal Matrix Composites. Key Engineering Materials, 1996, 127-131, 1167-1174.	0.4	2
101	Heterogeneity in Plastic Deformation. Materials Science Forum, 2006, 519-521, 85-92.	0.3	2
102	3-D High-Density Strain Mapping Procedure Based on High-Resolution CT. Materials Science Forum, 2007, 539-543, 2377-2382.	0.3	2
103	Failure Modes of Perforated Material Under Finite Deformation. Journal of Pressure Vessel Technology, Transactions of the ASME, 2008, 130, .	0.6	2
104	Characterization of Interfaces in SiC Particulate-Reinforced Al Alloys by AEM. Materials Research Society Symposia Proceedings, 1989, 170, 105.	0.1	1
105	Creep Mechanisms in Multiphase Ceramics. , 1995, , 359-368.		1
106	High Resolution Transmission Electron Microscope Investigations of Phases, Domains and Interfaces in Ti _{50.5} Al _{46.5} Cr ₃ /TiB ₂ Composites. Materials Science Forum, 1996, 207-209, 313-316.	0.3	1
107	A model for the mechanical behaviour of highly concentrated composites. Scripta Materialia, 2000, 42, 313-318.	5.2	1
108	Elastic-Plastic Limit Analysis for Perforated Plates With Triangular Array of Circular Holes. , 2006, , 379.		1

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109	Three-Dimensional Measurement of Local Strain Distribution by Tracking Microstructural Features in High-Resolution SR-CT Image. Key Engineering Materials, 2007, 345-346, 1153-1156.	0.4	1
110	VALIDATION OF THE DUAL-PHASE STEEL FAILURE MODEL AT THE MICROSCALE. International Journal for Multiscale Computational Engineering, 2017, 15, 443-458.	1.2	1
111	Tape Casting Using Fine Ceramic Powders. Materials Research Society Symposia Proceedings, 1991, 249, 305.	0.1	0
112	Transient Viscous Phase Reaction Sintered (Tvprs) Silicon Oxynitride Ceramics.. Materials Research Society Symposia Proceedings, 1992, 287, 381.	0.1	0
113	Structural Characterization of SiC Platelet-Reinforced Al ₂ O ₃ Matrix Composites before and after Creep Deformation. Materials Science Forum, 1996, 207-209, 177-180.	0.3	0
114	The Role of Platelet Orientation on the Creep Behaviour of Al ₂ O ₃ /SiC Composites. Key Engineering Materials, 1996, 127-131, 885-888.	0.4	0
115	Three-Dimensional Structure of Portevin-Le Chatelier Bands and Shear Bands in Strip Cast AA5754 Sheets Using Digital Image Correlation. , 2007, , .		0
116	Formability of an Automotive Aluminum Alloy-AA5754 CC. , 2008, , .		0
117	Plastic Limit Analysis of Perforated Material Under Finite Deformation. , 2005, , .		0
118	OS3-1-2 Measurement of 3-D strain distribution based on tracking of microstructural features in high-resolution SR-CT image. The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2007, 2007.6, _OS3-1-2-1- _OS3-1-2-6.	0.0	0
119	OS05-2-2 Influences of stress triaxiality and work hardening on void growth and coalescence studied by X-ray tomography. The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2011, 2011.10, _OS05-2-2-.	0.0	0
120	Characterization of Damage in Magnesium Using Digital Image Correlation and Electron Backscattered Diffraction Patterning. , 2014, , 111-114.		0