Mr Barnett

List of Publications by Citations

71 papers	8,371 citations	40 h-index	71 g-index
71 ext. papers	9,203 ext. citations	6 avg, IF	6.75 L-index

#	Paper	IF	Citations
71	Influence of grain size on the compressive deformation of wrought Mg–3Al–1Zn. *Acta Materialia*, **2004**, 52, 5093-5103	8.4	1042
70	Twinning and the ductility of magnesium alloys. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2007**, 464, 1-7	5.3	914
69	Twinning and the ductility of magnesium alloys. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2007**, 464, 8-16	5.3	846
68	The origin of "rare earth" texture development in extruded Mg-based alloys and its effect on tensile ductility. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2008**, 496, 399-408	5.3	576
67	Non-Schmid behaviour during secondary twinning in a polycrystalline magnesium alloy. *Acta Materialia*, **2008**, 56, 5-15	8.4	307
66	Effect of precipitate shape on slip and twinning in magnesium alloys. *Acta Materialia*, **2011**, 59, 1945-1956	8.4	292
65	Effective values of critical resolved shear stress for slip in polycrystalline magnesium and other hcp metals. *Scripta Materialia*, **2010**, 63, 737-740	5.6	290
64	Effect of microalloying with rare-earth elements on the texture of extruded magnesium-based alloys. *Scripta Materialia*, **2008**, 59, 772-775	5.6	271
63	A rationale for the strong dependence of mechanical twinning on grain size. *Scripta Materialia*, **2008**, 59, 696-698	5.6	263
62	Influence of deformation conditions and texture on the high temperature flow stress of magnesium AZ31. *Journal of Light Metals*, **2001**, 1, 167-177		201
61	Effect of particles on the formation of deformation twins in a magnesium-based alloy. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2009**, 516, 226-234	5.3	187
60	Microstructural Development during Hot Working of Mg-3Al-1Zn. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2007**, 38, 1856-1867	2.3	183
59	Solute segregation and texture modification in an extruded magnesium alloy containing gadolinium. *Scripta Materialia*, **2011**, 65, 919-921	5.6	162
58	Effect of plate-shaped particle distributions on the deformation behaviour of magnesium alloy AZ91 in tension and compression. *Acta Materialia*, **2012**, 60, 218-228	8.4	161
57	Solute strengthening of prismatic slip, basal slip and {10$\bar{1}$2} twinning in Mg and Mg–Zn binary alloys. *International Journal of Plasticity*, **2013**, 47, 165-181	7.6	157
56	Investigation of deformation twinning in a fine-grained and coarse-grained ZM20 Mg alloy: Combined in situ neutron diffraction and acoustic emission. *Acta Materialia*, **2010**, 58, 1503-1517	8.4	150
55	Characteristics of the contraction twins formed close to the fracture surface in Mg–3Al–1Zn alloy deformed in tension. *Scripta Materialia*, **2008**, 59, 959-962	5.6	143

54	Investigation of deformation mechanisms involved in the plasticity of AZ31 Mg alloy: In situ neutron diffraction and EPSC modelling. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2008**, 496, 14-24	5.3	129
53	Influence of initial microstructure on the hot working flow stress of Mg□Al□Zn. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2006**, 423, 292-299	5.3	126
52	On the strength of dislocation interactions and their effect on latent hardening in pure Magnesium. *International Journal of Plasticity*, **2014**, 62, 72-92	7.6	109
51	Effect of particles in promoting twin nucleation in a Mg□ wt.% Zn alloy. *Scripta Materialia*, **2010**, 63, 823-826	5.6	103
50	Influence of grain size on hot working stresses and microstructures in Mg□Al□Zn. *Scripta Materialia*, **2004**, 51, 19-24	5.6	101
49	The effect of high yttrium solute concentration on the twinning behaviour of magnesium alloys. *Acta Materialia*, **2015**, 82, 447-456	8.4	100
48	Tensile deformation of an ultrafine-grained aluminium alloy: Micro shear banding and grain boundary sliding. *Acta Materialia*, **2008**, 56, 2223-2230	8.4	95
47	The generation of new high-angle boundaries in aluminium during hot torsion. *Acta Materialia*, **2002**, 50, 2285-2296	8.4	88
46	Precipitate characteristics and their effect on the prismatic-slip-dominated deformation behaviour of an Mg□ Zn alloy. *Acta Materialia*, **2013**, 61, 4091-4102	8.4	83
45	Influence of orientation on twin nucleation and growth at low strains in a magnesium alloy. *Acta Materialia*, **2014**, 80, 380-391	8.4	73
44	Modeling of twin formation, propagation and growth in a Mg single crystal based on crystal plasticity finite element method. *International Journal of Plasticity*, **2016**, 86, 70-92	7.6	71
43	On the correlation between deformation twinning and L□ders-like deformation in an extruded Mg alloy: In situ neutron diffraction and EPSC.4 modelling. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2010**, 527, 1383-1394	5.3	68
42	Deformation Twinning and the Hall□Petch Relation in Commercial Purity Ti. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2008**, 39, 934-944	2.3	66
41	The effect of strain rate on the deformation mechanisms and the strain rate sensitivity of an ultra-fine-grained Al alloy. *Scripta Materialia*, **2009**, 61, 181-184	5.6	60
40	Enhanced tensile ductility of an ultra-fine-grained aluminum alloy. *Scripta Materialia*, **2008**, 58, 163-166	5.6	54
39	Microstructure evolution in hot worked and annealed magnesium alloy AZ31. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2008**, 485, 318-324	5.3	52
38	The role of back stress caused by precipitates on {10□2} twinning in a Mg□Zn alloy. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2015**, 647, 66-73	5.3	51
37	Grain size effect on the warm deformation behaviour of a Ti-IF steel. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2004**, 367, 282-294	5.3	49

36	The effect of initial grain size and temperature on the tensile properties of magnesium alloy AZ31 sheet. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2012**, 549, 1-6	5.3	47
35	Twinning in magnesium-based lamellar microstructures. *Scripta Materialia*, **2012**, 67, 704-707	5.6	44
34	Processing and properties of Mg□Gd□Zn□.6Zr. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2011**, 528, 3659-3665	5.3	43
33	Necking and failure at low strains in a coarse-grained wrought Mg alloy. *Scripta Materialia*, **2008**, 59, 1035-1038	5.6	43
32	Influence of microstructure on strain distribution in Mg□Al□Zn. *Scripta Materialia*, **2007**, 57, 1125-1128	5.6	42
31	Processing and properties of Mg□Gd□Zn□.6Zr: Part 1 □Recrystallisation and texture development. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2011**, 528, 3653-3658	5.3	37
30	On the enhanced wear resistance of CoCrFeMnNi high entropy alloy at intermediate temperature. *Scripta Materialia*, **2020**, 186, 230-235	5.6	33
29	Influence of aging pre-treatment on the compressive deformation of WE54 alloy. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2007**, 452-453, 306-312	5.3	33
28	Time and spatial resolution of slip and twinning in a grain embedded within a magnesium polycrystal. *Acta Materialia*, **2014**, 78, 203-212	8.4	31
27	Distinguishing between slip and twinning events during nanoindentation of magnesium alloy AZ31. *Scripta Materialia*, **2016**, 110, 10-13	5.6	29
26	Thermomechanical properties of Ni-Ti shape memory wires containing nanoscale precipitates induced by stress-assisted ageing. *Acta Biomaterialia*, **2014**, 10, 5178-5192	10.8	28
25	EBSD analysis of a Ti-IF steel subjected to hot torsion in the ferritic region. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2008**, 486, 72-79	5.3	28
24	Effect of alloying and extrusion temperature on the microstructure and mechanical properties of Mg□n and Mg□nRE alloys. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2014**, 619, 238-246	5.3	26
23	The post-deformation recrystallization behaviour of magnesium alloy Mg□Al□Zn. *Scripta Materialia*, **2009**, 61, 1097-1100	5.6	26
22	A double inclusion homogenization scheme for polycrystals with hierarchal topologies: application to twinning in Mg alloys. *International Journal of Plasticity*, **2014**, 60, 182-196	7.6	25
21	A minimum parameter approach to crystal plasticity modelling. *Acta Materialia*, **2012**, 60, 5391-5398	8.4	24
20	Plastic Flow Properties and Microstructural Evolution in an Ultrafine-Grained Al-Mg-Si Alloy at Elevated Temperatures. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2009**, 40, 3294-3303	2.3	23
19	Atom Probe Tomography of Solute Distributions in Mg-Based Alloys. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2009**, 40, 2480-2487	2.3	23

18	Attaining high compressive strains in pure Mg at room temperature by encasing with pure Al. *Scripta Materialia*, **2012**, 66, 725-728	5.6	21
17	Influence of temperature and plastic relaxation on tensile twinning in a magnesium alloy. *Scripta Materialia*, **2013**, 69, 521-524	5.6	21
16	A microstructure based analytical model for tensile twinning in a rod textured Mg alloy. *International Journal of Plasticity*, **2015**, 72, 151-167	7.6	16
15	Towards the large-scale production and strength prediction of near-eutectic AlxCoCrFeNi2.1 alloys by additive manufacturing. *Manufacturing Letters*, **2020**, 25, 16-20	4.5	15
14	A practical condition for migration dynamic recrystallization. *Acta Materialia*, **2007**, 55, 3271-3278	8.4	14
13	Importance of propagation in controlling the twinning stress in Mg. *Scripta Materialia*, **2019**, 162, 447-450	5.6	11
12	Twinning and its role in wrought magnesium alloys **2012**, 105-143		10
11	Grain size and void formation in Mg alloy AZ31. *Journal of Alloys and Compounds*, **2020**, 816, 152618	5.7	9
10	Discontinuous yielding in wrought magnesium. *Computational Materials Science*, **2017**, 132, 81-91	3.2	8
9	Experimental and theoretical investigation of compression of a cylinder using a rotating platen. *International Journal of Mechanical Sciences*, **2003**, 45, 1717-1737	5.5	8
8	A rationale for the influence of grain size on failure of magnesium alloy AZ31: An in situ X-ray microtomography study. *Acta Materialia*, **2020**, 200, 619-631	8.4	8
7	Crystal plasticity and in-situ diffraction-based determination of the dislocation strengthening and load-sharing effects of precipitates in Mg alloy, AZ91. *Materialia*, **2019**, 6, 100308	3.2	7
6	A scrap-tolerant alloying concept based on high entropy alloys. *Acta Materialia*, **2020**, 200, 735-744	8.4	7
5	Optimising the Al and Ti compositional window for the design of □(L12)-strengthened Al□CoCrFeNi□Ti high entropy alloys. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2022**, 835, 142620	5.3	4
4	Forming of magnesium and its alloys **2013**, 197-231		3
3	The Hot Working Flow Stress and Microstructure in Magnesium AZ31369-374		1
2	On the Impact of Second Phase Particles on Twinning in Magnesium Alloys **2011**, 289-293		
1	Influences of steady and cyclic die rotation on the compression of aluminium. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2008**, 483-484, 444-447	5.3	