Mr Barnett

List of Publications by Year
in descending order

69 papers	9,972 citations	66234 42 h-index	102304 66 g-index
71 all docs	71 docs citations	71 times ranked	3346 citing authors

#	Article	IF	Citations
1	Influence of grain size on the compressive deformation of wrought Mgâ€“3Alâ€“1Zn. Acta Materialia, 2004, 52, 5093-5103.	3.8	1,174
2	Twinning and the ductility of magnesium alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 464, 1-7.	2.6	1,083
3	Twinning and the ductility of magnesium alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 464, 8-16.	2.6	959
4	The origin of â€œrare earthâ€• 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.	2.6	703
5	Effective values of critical resolved shear stress for slip in polycrystalline magnesium and other hcp metals. Scripta Materialia, 2010, 63, 737-740.	2.6	385
6	Non-Schmid behaviour during secondary twinning in a polycrystalline magnesium alloy. Acta Materialia, 2008, 56, 5-15.	3.8	345
7	Effect of precipitate shape on slip and twinning in magnesium alloys. Acta Materialia, 2011, 59, 1945-1956.	3.8	344
8	Effect of microalloying with rare-earth elements on the texture of extruded magnesium-based alloys. Scripta Materialia, 2008, 59, 772-775.	2.6	309
9	A rationale for the strong dependence of mechanical twinning on grain size. Scripta Materialia, 2008, 59, 696-698.	2.6	295
10	Microstructural Development during Hot Working of Mg-3Al-1Zn. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2007, 38, 1856-1867.	1.1	221
11	Influence of deformation conditions and texture on the high temperature flow stress of magnesium AZ31. Journal of Light Metals, 2001, 1, 167-177.	0.8	217
12	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.	2.6	217
13	Solute strengthening of prismatic slip, basal slip and twinning in Mg and Mgâ€“Zn binary alloys. International Journal of Plasticity, 2013, 47, 165-181.	4.1	214
14	Solute segregation and texture modification in an extruded magnesium alloy containing gadolinium. Scripta Materialia, 2011, 65, 919-921.	2.6	207
15	Effect of plate-shaped particle distributions on the deformation behaviour of magnesium alloy AZ91 in tension and compression. Acta Materialia, 2012, 60, 218-228.	3.8	190
16	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.	3.8	175
17	Characteristics of the contraction twins formed close to the fracture surface in Mgâ€“3Alâ€“1Zn alloy deformed in tension. Scripta Materialia, 2008, 59, 959-962.	2.6	160
18	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.	2.6	147

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19	On the strength of dislocation interactions and their effect on latent hardening in pure Magnesium. International Journal of Plasticity, 2014, 62, 72-92.	4.1	139
20	Influence of initial microstructure on the hot working flow stress of Mgâ€“3Alâ€“1Zn. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2006, 423, 292-299.	2.6	135
21	The effect of high yttrium solute concentration on the twinning behaviour of magnesium alloys. Acta Materialia, 2015, 82, 447-456.	3.8	129
22	Effect of particles in promoting twin nucleation in a Mgâ€“5wt.% Zn alloy. Scripta Materialia, 2010, 63, 823-826.	2.6	128
23	Influence of grain size on hot working stresses and microstructures in Mgâ€“3Alâ€“1Zn. Scripta Materialia, 2004, 51, 19-24.	2.6	115
24	Tensile deformation of an ultrafine-grained aluminium alloy: Micro shear banding and grain boundary sliding. Acta Materialia, 2008, 56, 2223-2230.	3.8	113
25	Precipitate characteristics and their effect on the prismatic-slip-dominated deformation behaviour of an Mgâ€“6 Zn alloy. Acta Materialia, 2013, 61, 4091-4102.	3.8	110
26	The generation of new high-angle boundaries in aluminium during hot torsion. Acta Materialia, 2002, 50, 2285-2296.	3.8	94
27	On the enhanced wear resistance of CoCrFeMnNi high entropy alloy at intermediate temperature. Scripta Materialia, 2020, 186, 230-235.	2.6	92
28	Influence of orientation on twin nucleation and growth at low strains in a magnesium alloy. Acta Materialia, 2014, 80, 380-391.	3.8	89
29	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.	4.1	87
30	Deformation Twinning and the Hallâ€“Petch Relation in Commercial Purity Ti. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2008, 39, 934-944.	1.1	76
31	On the correlation between deformation twinning and LÃ¼ders-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.	2.6	76
32	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.	2.6	74
33	Enhanced tensile ductility of an ultra-fine-grained aluminum alloy. Scripta Materialia, 2008, 58, 163-166.	2.6	65
34	The role of back stress caused by precipitates on <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si0003.gif" overflow="scroll"><mml:mrow><mml:mo>{</mml:mo><mml:mn>10</mml:mn><mml:mover accent="true"><mml:mn>1</mml:mn><mml:mo>Â¯</mml:mo></mml:mover><mml:mn>2</mml:mn><mml:mo>}</mml:mo></mml:mro twinning in a Mgâ€“6Zn alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 647, 66-73.	2.6	64
35	Twinning in magnesium-based lamellar microstructures. Scripta Materialia, 2012, 67, 704-707.	2.6	58
36	Microstructure evolution in hot worked and annealed magnesium alloy AZ31. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 485, 318-324.	2.6	57

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37	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.	2.6	57
38	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.	2.6	53
39	Processing and properties of Mgâ€"6Gdâ€"1Znâ€"0.6Zr. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 3659-3665.	2.6	47
40	Processing and properties of Mgâ€"6Gdâ€"1Znâ€"0.6Zr: Part 1 â€" Recrystallisation and texture development. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 3653-3658.	2.6	47
41	Influence of microstructure on strain distribution in Mgâ€"3Alâ€"1Zn. Scripta Materialia, 2007, 57, 1125-1128.	2.6	46
42	Necking and failure at low strains in a coarse-grained wrought Mg alloy. Scripta Materialia, 2008, 59, 1035-1038.	2.6	45
43	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.	2.6	41
44	Thermomechanical properties of Niâ€"Ti shape memory wires containing nanoscale precipitates induced by stress-assisted ageing. Acta Biomaterialia, 2014, 10, 5178-5192.	4.1	39
45	Distinguishing between slip and twinning events during nanoindentation of magnesium alloy AZ31. Scripta Materialia, 2016, 110, 10-13.	2.6	34
46	Time and spatial resolution of slip and twinning in a grain embedded within a magnesium polycrystal. Acta Materialia, 2014, 78, 203-212.	3.8	33
47	Effect of alloying and extrusion temperature on the microstructure and mechanical properties of Mgâ€"Zn and Mgâ€"Znâ€"RE alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 619, 238-246.	2.6	31
48	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.	3.8	31
49	Optimising the Al and Ti compositional window for the design of Î³â€™ (L12)-strengthened Alâ€"Coâ€"Crâ€"Feâ€"Niâ€"Ti high entropy alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 835, 142620.	2.6	31
50	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.	2.6	29
51	Atom Probe Tomography of Solute Distributions in Mg-Based Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2009, 40, 2480-2487.	1.1	29
52	The post-deformation recrystallization behaviour of magnesium alloy Mgâ€"3Alâ€"1Zn. Scripta Materialia, 2009, 61, 1097-1100.	2.6	28
53	Attaining high compressive strains in pure Mg at room temperature by encasing with pure Al. Scripta Materialia, 2012, 66, 725-728.	2.6	28
54	A minimum parameter approach to crystal plasticity modelling. Acta Materialia, 2012, 60, 5391-5398.	3.8	27

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55	A double inclusion homogenization scheme for polycrystals with hierarchal topologies: application to twinning in Mg alloys. International Journal of Plasticity, 2014, 60, 182-196.	4.1	27
56	Towards the large-scale production and strength prediction of near-eutectic AlxCoCrFeNi2.1 alloys by additive manufacturing. Manufacturing Letters, 2020, 25, 16-20.	1.1	27
57	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.	1.1	26
58	Influence of temperature and plastic relaxation on tensile twinning in a magnesium alloy. Scripta Materialia, 2013, 69, 521-524.	2.6	26
59	A scrap-tolerant alloying concept based on high entropy alloys. Acta Materialia, 2020, 200, 735-744.	3.8	21
60	Grain size and void formation in Mg alloy AZ31. Journal of Alloys and Compounds, 2020, 816, 152618.	2.8	20
61	A microstructure based analytical model for tensile twinning in a rod textured Mg alloy. International Journal of Plasticity, 2015, 72, 151-167.	4.1	19
62	Importance of propagation in controlling the twinning stress in Mg. Scripta Materialia, 2019, 162, 447-450.	2.6	18
63	A practical condition for migration dynamic recrystallization. Acta Materialia, 2007, 55, 3271-3278.	3.8	15
64	Twinning and its role in wrought magnesium alloys. , 2012, , 105-143.		14
65	Experimental and theoretical investigation of compression of a cylinder using a rotating platen. International Journal of Mechanical Sciences, 2003, 45, 1717-1737.	3.6	12
66	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.	1.3	11
67	Discontinuous yielding in wrought magnesium. Computational Materials Science, 2017, 132, 81-91.	1.4	10
68	Forming of magnesium and its alloys. , 2013, , 197-231.		3
69	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.	2.6	0