Joseph D Robson

List of Publications by Year
in descending order

103 papers	6,959 citations	61984 43 h-index	58581 82 g-index
105 all docs	105 docs citations	105 times ranked	3822 citing authors

#	Article	IF	Citations
1	Particle effects on recrystallization in magnesiumâ€“manganese alloys: Particle-stimulated nucleation. Acta Materialia, 2009, 57, 2739-2747.	7.9	660
2	Friction stir welding/processing of metals and alloys: A comprehensive review on microstructural evolution. Progress in Materials Science, 2021, 117, 100752.	32.8	436
3	Review on Research and Development of Magnesium Alloys. Acta Metallurgica Sinica (English Letters), 2008, 21, 313-328.	2.9	354
4	Effect of precipitate shape on slip and twinning in magnesium alloys. Acta Materialia, 2011, 59, 1945-1956.	7.9	344
5	Dispersoid precipitation and process modelling in zirconium containing commercial aluminium alloys. Acta Materialia, 2001, 49, 599-613.	7.9	282
6	Dynamic recrystallization of Mg and Mgâ€“Y alloys: Crystallographic texture development. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 485, 375-382.	5.6	209
7	Microstructural evolution in aluminium alloy 7050 during processing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 382, 112-121.	5.6	176
8	Effect of Rare-Earth Additions on the Texture of Wrought Magnesium Alloys: The Role of Grain Boundary Segregation. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 3205-3212.	2.2	171
9	Particle effects on recrystallization in magnesiumâ€“manganese alloys: Particle pinning. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 4239-4247.	5.6	167
10	The effect of high strain rate deformation on intermetallic reaction during ultrasonic welding aluminium to magnesium. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 556, 31-42.	5.6	167
11	A new model for prediction of dispersoid precipitation in aluminium alloys containing zirconium and scandium. Acta Materialia, 2004, 52, 1409-1421.	7.9	153
12	Modelling the overlap of nucleation, growth and coarsening during precipitation. Acta Materialia, 2004, 52, 4669-4676.	7.9	150
13	Precipitation strengthening and reversed yield stress asymmetry in Mg alloys containing rare-earth elements: A quantitative study. Acta Materialia, 2017, 124, 456-467.	7.9	148
14	The formation of nanograin structures and accelerated room-temperature theta precipitation in a severely deformed Alâ€“4 wt.% Cu alloy. Acta Materialia, 2010, 58, 1643-1657.	7.9	143
15	How magnesium accommodates local deformation incompatibility: A high-resolution digital image correlation study. Acta Materialia, 2017, 133, 367-379.	7.9	134
16	Making sustainable aluminum by recycling scrap: The science of â€œdirtyâ€•alloys. Progress in Materials Science, 2022, 128, 100947.	32.8	134
17	Effect of particles in promoting twin nucleation in a Mgâ€“5wt.% Zn alloy. Scripta Materialia, 2010, 63, 823-826.	5.2	128
18	Extension of the N-model to predict competing homogeneous and heterogeneous precipitation in Al-Sc alloys. Acta Materialia, 2003, 51, 1453-1468.	7.9	127

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19	Effect of extrusion conditions on microstructure, texture, and yield asymmetry in Mgâ€“6Yâ€“7Gdâ€“0.5wt%Zr alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 7247-7256.	5.6	124
20	The interaction of grain refinement and ageing in magnesiumâ€“zincâ€“zirconium (ZK) alloys. Acta Materialia, 2015, 95, 10-19.	7.9	124
21	Microstructural properties of friction stir welded and post-weld heat-treated 7449 aluminium alloy thick plate. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 478, 351-360.	5.6	118
22	Modelling Al3Zr dispersoid precipitation in multicomponent aluminium alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 352, 240-250.	5.6	116
23	Optimizing the homogenization of zirconium containing commercial aluminium alloys using a novel process model. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2002, 338, 219-229.	5.6	109
24	Grain Boundary Segregation of Rare-Earth Elements in Magnesium Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 522-530.	2.2	105
25	Heterogeneous Zr solute segregation and Al3Zr dispersoid distributions in Alâ€“Cuâ€“Li alloys. Acta Materialia, 2015, 93, 73-86.	7.9	100
26	Modelling of heterogeneous precipitate distribution evolution during friction stir welding process. Acta Materialia, 2006, 54, 2003-2014.	7.9	98
27	Effect of Precipitate Shape and Habit on Mechanical Asymmetry in Magnesium Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 2984-2995.	2.2	91
28	Dissimilar ultrasonic spot welding of aerospace aluminum alloy AA2139 to titanium alloy TiAl6V4. Journal of Materials Processing Technology, 2016, 231, 382-388.	6.3	90
29	Influence of orientation on twin nucleation and growth at low strains in a magnesium alloy. Acta Materialia, 2014, 80, 380-391.	7.9	89
30	On the interaction of precipitates and tensile twins in magnesium alloys. Acta Materialia, 2019, 178, 146-162.	7.9	80
31	Modeling competitive continuous and discontinuous precipitation. Acta Materialia, 2013, 61, 7781-7790.	7.9	77
32	Interactions between zirconium and manganese dispersoid-forming elements on their combined addition in Alâ€“Cuâ€“Li alloys. Acta Materialia, 2012, 60, 5245-5259.	7.9	74
33	Microstructural characterization and mechanical properties of high power ultrasonic spot welded aluminum alloy AA6111â€“TiAl6V4 dissimilar joints. Materials Characterization, 2014, 97, 83-91.	4.4	70
34	The effect of internal stresses due to precipitates on twin growth in magnesium. Acta Materialia, 2016, 121, 277-287.	7.9	69
35	Modelling of friction stir welding of 7xxx aluminium alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 466, 246-255.	5.6	65
36	A model relating tool torque and its associated power and specific energy to rotation and forward speeds during friction stir welding/processing. International Journal of Machine Tools and Manufacture, 2010, 50, 1023-1030.	13.4	64

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37	Understanding precipitate evolution during friction stir welding of Al-Zn-Mg-Cu alloy through in-situ measurement coupled with simulation. Acta Materialia, 2018, 148, 163-172.	7.9	64
38	Predicting recrystallised volume fraction in aluminium alloy 7050 hot rolled plate. Materials Science and Technology, 2002, 18, 607-614.	1.6	57
39	Modelling intermetallic phase formation in dissimilar metal ultrasonic welding of aluminium and magnesium alloys. Science and Technology of Welding and Joining, 2012, 17, 447-453.	3.1	55
40	Effect of traces of silicon on the formation of Fe-rich particles in pure magnesium and the corrosion susceptibility of magnesium. Journal of Alloys and Compounds, 2015, 619, 396-400.	5.5	53
41	Dispersoid composition in zirconium containing Al-Zn-Mg-Cu (AA7010) aluminium alloy. Acta Materialia, 2019, 169, 135-146.	7.9	51
42	The Effectiveness of Surface Coatings on Preventing Interfacial Reaction During Ultrasonic Welding of Aluminum to Magnesium. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 5773-5781.	2.2	47
43	Interfacial Segregation of Alloying Elements During Dissimilar Ultrasonic Welding of AA6111 Aluminum and Ti6Al4V Titanium. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 5143-5152.	2.2	46
44	Theoretical design of ferritic creep resistant steels using neural network, kinetic, and thermodynamic models. Materials Science and Technology, 1999, 15, 547-554.	1.6	45
45	Kinetics of precipitation in power plant steels. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 1996, 20, 447-460.	1.6	44
46	The Effect of Precipitates on Twinning in Magnesium Alloys. Advanced Engineering Materials, 2019, 21, 1800460.	3.5	44
47	Critical Assessment 9: Wrought magnesium alloys. Materials Science and Technology, 2015, 31, 257-264.	1.6	42
48	Zirconium hydride precipitation kinetics in Zircaloy-4 observed with synchrotron X-ray diffraction. Journal of Nuclear Materials, 2015, 464, 160-169.	2.7	41
49	Modeling of Intermetallic Compounds Growth Between Dissimilar Metals. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2015, 46, 4106-4114.	2.2	37
50	Reducing yield asymmetry and anisotropy in wrought magnesium alloys â€“ A comparative study. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 744, 525-537.	5.6	34
51	Characterisation and modelling of toughness in 6013-T6 aerospace aluminium alloy friction stir welds. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 490, 328-334.	5.6	32
52	The effect of multiple precipitate types and texture on yield asymmetry in Mg-Sn-Zn(-Al-Na-Ca) alloys. Acta Materialia, 2018, 158, 1-12.	7.9	31
53	Microstructure simulation and ballistic behaviour of weld zones in friction stir welds in high strength aluminium 7xxx plate. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 3409-3422.	5.6	30
54	Process Optimization of Dual-Laser Beam Welding of Advanced Al-Li Alloys Through Hot Cracking Susceptibility Modeling. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 3533-3544.	2.2	30

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55	The Effect of Small Scandium Additions to AA7050 on the As-Cast and Homogenized Microstructure. Materials Science Forum, 2002, 396-402, 757-762.	0.3	26
56	Effect of hydrogen on the mechanical properties of alloy 945X (UNS N09945) and influence of microstructural features. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 684, 423-434.	5.6	26
57	Microstructural Modelling for Friction Stir Welding of Aluminium Alloys. Materials and Manufacturing Processes, 2007, 22, 450-456.	4.7	25
58	Anisotropy and Asymmetry of Yield in Magnesium Alloys at Room Temperature. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 5226-5235.	2.2	25
59	Strain evolution during hydride precipitation in Zircaloy-4 observed with synchrotron X-ray diffraction. Journal of Nuclear Materials, 2016, 474, 45-61.	2.7	24
60	The Influence of Grain Structure on Intermetallic Compound Layer Growth Rates in Fe-Al Dissimilar Welds. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 515-526.	2.2	24
61	Incipient melting during friction stir processing of AZ91 magnesium castings. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 7299-7304.	5.6	23
62	Numerical simulation of grain boundary carbides evolution in 316H stainless steel. Journal of Nuclear Materials, 2018, 508, 299-309.	2.7	19
63	Microstructural Evolution of Cold-Rolled AA7075 Sheet during Solution Treatment. Materials, 2020, 13, 2734.	2.9	19
64	Effect of Dispersoids on the Microstructure Evolution in Alâ€“Mgâ€“Si Alloys. Advanced Engineering Materials, 2019, 21, 1800494.	3.5	17
65	Emerging Hot Topics and Research Questions in Wrought Magnesium Alloy Development. Jom, 2020, 72, 2561-2567.	1.9	17
66	Modelling dynamic precipitation in pre-aged aluminium alloys under warm forming conditions. Acta Materialia, 2022, 234, 118036.	7.9	17
67	Modelling precipitation in zirconium niobium alloys. Journal of Nuclear Materials, 2008, 377, 415-422.	2.7	15
68	Simulation and control of dispersoids and dispersoid-free zones during homogenizing an AlMgSi alloy. Scripta Materialia, 2007, 57, 603-606.	5.2	14
69	Characterisation and modelling of defect formation in direct-chill cast AZ80 alloy. Materials Characterization, 2015, 104, 116-123.	4.4	14
70	Characterising precipitate evolution in multi-component cast aluminium alloys using small-angle X-ray scattering. Journal of Alloys and Compounds, 2017, 703, 344-353.	5.5	12
71	Contribution of Twinning to Low Strain Deformation in a Mg Alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 3213-3221.	2.2	11
72	The Effect of Hot Deformation on Dispersoid Evolution in a Model 3xxx Alloy. Materials Science Forum, 0, 794-796, 697-703.	0.3	10

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73	Microstructure and properties of aluminium alloy 6082 formed by the Hot Form Quench process. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 804, 140751.	5.6	9
74	Coherency Loss of Al₃Sc Precipitates during Ageing of Dilute Al-Sc Alloys. Materials Science Forum, 2006, 519-521, 473-478.	0.3	7
75	Application of X-ray microtomography to analysis of cavitation in AZ61 magnesium alloy during hot deformation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 2610-2619.	5.6	7
76	Measurement and Modeling of Second Phase Precipitation Kinetics in Zirconium Niobium Alloys. Journal of ASTM International, 2010, 7, 1-16.	0.2	7
77	Microstructural Evolution in AA7449 Plate Subject to Friction Stir Welding and Post Weld Heat Treatment. Materials Science Forum, 2006, 519-521, 1181-1186.	0.3	6
78	Modeling precipitate evolution in zirconium alloys during irradiation. Journal of Nuclear Materials, 2016, 476, 123-131.	2.7	6
79	Preageing of magnesium alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 809, 141002.	5.6	6
80	Material Constitutive Behaviour and Microstructure Study on Aluminium Alloys for Friction Stir Welding. Advanced Materials Research, 0, 89-91, 615-620.	0.3	5
81	Influence of Lead on the Microstructure and Corrosion Behavior of Melt-Conditioned, Twin-Roll-Cast AZ91D Magnesium Alloy. Corrosion, 2012, 68, 548-556.	1.1	5
82	Room temperature instability of an Al-4%Cu super saturated solid solution in a nano-crystalline alloy produced by SPD. Journal of Materials Science, 2010, 45, 4851-4857.	3.7	4
83	Controlling Interfacial Reaction during Dissimilar Metal Welding of Aluminium Alloys. Materials Science Forum, 0, 794-796, 416-421.	0.3	4
84	Assessment of annealing parameter approximations in zirconium alloys. Journal of Nuclear Materials, 2019, 527, 151814.	2.7	4
85	Modelling precipitate amorphization in Zircaloys. Journal of Nuclear Materials, 2021, 551, 152944.	2.7	4
86	Simulating intergranular hydrogen enhanced decohesion in aluminium using density functional theory. Modelling and Simulation in Materials Science and Engineering, 2022, 30, 035009.	2.0	3
87	Short communicationRefinement and characterisation of a thermodynamically stableÎ²-[Ni(Al,Ti)]â€“Î²â€²-[Ni₂AlTi]â€“Î³â€²-[Ni₃(Al,Ti)] metalâ€“metal composite. Materials Science and Technology, 2000, 16, 349-351.	1.6	2
88	Optimisation of a multiphase intermetallic metalâ€“metal composite material. Materials Science and Technology, 2001, 17, 333-337.	1.6	2
89	Reducing Mechanical Asymmetry in Wrought Magnesium Alloys. Materials Science Forum, 0, 765, 580-584.	0.3	2
90	Constituent Particles and Dispersoids in an Al-Mn-Fe-Si Alloy Studied in Three-Dimensions by Serial Sectioning. Materials Science Forum, 0, 765, 451-455.	0.3	2

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91	A New Model for Discontinuous and Continuous Precipitation in AZ91 Magnesium Alloy. Materials Science Forum, 0, 783-786, 461-466.	0.3	2
92	Modelling Precipitate Evolution during Friction Stir Welding of Aerospace Aluminium Alloys. Materials Science Forum, 2006, 519-521, 1101-1106.	0.3	1
93	Microstructural Evolution during Friction Stir Processing of Magnesium Alloy Castings. Materials Science Forum, 2010, 654-656, 751-754.	0.3	1
94	Microstructural Modelling for Friction Stir Welding of High Strength Aluminum Alloys. Materials Science Forum, 0, 706-709, 1008-1013.	0.3	1
95	Modelling of friction stir welded AA2139 aluminium alloy panels in tension and blast. International Journal of Impact Engineering, 2022, 163, 104163.	5.0	1
96	Modelling the Effect of Deformation on Discontinuous Precipitation in Magnesiumâ€”Aluminium Alloy. , 2022, 1, 54-69.		1
97	Modelling the Precipitation of Al₃X Dispersoids in Aluminium Alloys and their Effect on Recrystallization. Materials Science Forum, 2007, 550, 45-54.	0.3	0
98	Effect of Strain and Strain Rate on the Evolution of Dispersoid Particles in Al-Mn-Fe-Si Alloy during Hot Deformation. Materials Science Forum, 0, 765, 398-402.	0.3	0
99	Influence of Precipitation on Twinning in a Mg-Al-Zn Alloy. Materials Science Forum, 2018, 941, 1041-1046.	0.3	0
100	Measurement and Modeling of Second Phase Precipitation Kinetics in Zirconium Niobium Alloys. , 2012, , 150-175.		0
101	Measurement and Modeling of Second Phase Precipitation Kinetics in Zirconium Niobium Alloys. , 2011, , 150-175.		0
102	Texture Evolution During Wire Drawing of Mg-RE Alloy. , 2014, , 251-256.		0
103	Coating Design for Controlling Î² Phase IMC Formation in Dissimilar Al-Mg Metal Welding. , 2015, , 171-179.		0