Mark A Easton

List of Publications by Year
in descending order

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Version: 2024-02-01

112 papers	6,914 citations	109321 35 h-index	62596 80 g-index
119 all docs	119 docs citations	119 times ranked	4016 citing authors

#	Article	IF	Citations
1	Grain refinement of aluminum alloys: Part I. the nucleant and solute paradigmsâ€"a review of the literature. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1999, 30, 1613-1623.	2.2	605
2	Grain refinement of magnesium alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2005, 36, 1669-1679.	2.2	580
3	Additive manufacturing of ultrafine-grained high-strength titanium alloys. Nature, 2019, 576, 91-95.	27.8	575
4	Selective laser melting (SLM) of AlSi12Mg lattice structures. Materials and Design, 2016, 98, 344-357.	7.0	355
5	An analysis of the relationship between grain size, solute content, and the potency and number density of nucleant particles. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2005, 36, 1911-1920.	2.2	316
6	Grain refinement of aluminum alloys: Part II. Confirmation of, and a mechanism for, the solute paradigm. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1999, 30, 1625-1633.	2.2	303
7	Calculated phase diagrams and the corrosion of die-cast Mgâ€"Al alloys. Corrosion Science, 2009, 51, 602-619.	6.6	296
8	Magnesium alloy applications in automotive structures. Jom, 2008, 60, 57-62.	1.9	266
9	The grain refinement mechanism of cast aluminium by zirconium. Acta Materialia, 2013, 61, 5636-5645.	7.9	184
10	Recent advances in biodegradation controls over Mg alloys for bone fracture management: A review. Journal of Materials Science and Technology, 2019, 35, 535-544.	10.7	171
11	Revisiting the role of peritectics in grain refinement of Al alloys. Acta Materialia, 2013, 61, 360-370.	7.9	164
12	Effect of geometry on the mechanical properties of Ti-6Al-4V Gyroid structures fabricated via SLM: A numerical study. Materials and Design, 2019, 184, 108165.	7.0	134
13	Towards understanding grain nucleation under Additive Manufacturing solidification conditions. Acta Materialia, 2020, 195, 392-403.	7.9	127
14	Metal Alloys for Fusionâ€Based Additive Manufacturing. Advanced Engineering Materials, 2018, 20, 1700952.	3.5	126
15	Evaluation of Magnesium Die-Casting Alloys for Elevated Temperature Applications: Microstructure, Tensile Properties, and Creep Resistance. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2015, 46, 3543-3554.	2.2	116
16	Grain Refinement of Alloys in Fusion-Based Additive Manufacturing Processes. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 4341-4359.	2.2	115
17	Grain refinement of Mgâ€"Al(â€"Mn) alloys by SiC additions. Scripta Materialia, 2006, 55, 379-382.	5.2	110
18	Double-layered manganese phosphate conversion coating on magnesium alloy AZ91D: Insights into coating formation, growth and corrosion resistance. Surface and Coatings Technology, 2013, 217, 147-155.	4.8	107

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19	Compressive strain-rate sensitivity of magnesiumâ€“aluminum die casting alloys. Materials & Design, 2009, 30, 642-648.	5.1	81
20	Selective Laser Melting of Duplex Stainless Steel 2205: Effect of Post-Processing Heat Treatment on Microstructure, Mechanical Properties, and Corrosion Resistance. Materials, 2019, 12, 2468.	2.9	73
21	Effect of Alloy Composition on the Dendrite Arm Spacing of Multicomponent Aluminum Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2010, 41, 1528-1538.	2.2	72
22	Revealing the Mechanisms of Grain Nucleation and Formation During Additive Manufacturing. Jom, 2020, 72, 1065-1073.	1.9	66
23	Observation and Prediction of the Hot Tear Susceptibility of Ternary Al-Si-Mg Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 3227-3238.	2.2	60
24	Influence of macrosegregation on solidification cracking in laser clad ultra-high strength steels. Surface and Coatings Technology, 2018, 340, 126-136.	4.8	59
25	Heat treatment, microstructure and mechanical properties of a Mgâ€“Gdâ€“Y alloy grain-refined by Al additions. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 576, 298-305.	5.6	57
26	An A Priori Hot-Tearing Indicator Applied to Die-Cast Magnesium-Rare Earth Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 3586-3595.	2.2	55
27	A comparison of the deformation of magnesium alloys with aluminium and steel in tension, bending and buckling. Materials & Design, 2006, 27, 935-946.	5.1	54
28	Performance of wrought aluminium and magnesium alloy tubes in three-point bending. Materials & Design, 2009, 30, 2316-2322.	5.1	50
29	Relating Quench Sensitivity to Microstructure in 6000 Series Aluminium Alloys. Materials Transactions, 2011, 52, 914-919.	1.2	50
30	Crystallographic study of Al3Zr and Al3Nb as grain refiners for Al alloys. Transactions of Nonferrous Metals Society of China, 2014, 24, 2034-2040.	4.2	50
31	Grain refinement of Mgâ€“10Gd alloy by Al additions. Journal of Materials Research, 2012, 27, 2790-2797.	2.6	49
32	In-situ quench and tempering for microstructure control and enhanced mechanical properties of laser cladded AISI 420 stainless steel powder on 300M steel substrates. Surface and Coatings Technology, 2018, 333, 210-219.	4.8	46
33	Grain Refinement of Magnesium Alloys by Mgâ€“Zr Master Alloys: The Role of Alloy Chemistry and Zr Particle Number Density. Advanced Engineering Materials, 2013, 15, 373-378.	3.5	44
34	Exceptional grain refinement of Mg-Zr master alloy treated by tungsten inert gas arc re-melting with ultra-high frequency pulses. Scripta Materialia, 2022, 215, 114700.	5.2	40
35	Hot Tear Susceptibility of Al-Mg-Si-Fe Alloys with Varying Iron Contents. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 5396-5407.	2.2	39
36	Casting Defects and Mechanical Properties of High Pressure Die Cast Mgâ€Znâ€Alâ€RE Alloys. Advanced Engineering Materials, 2012, 14, 68-76.	3.5	38

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37	The Influence of Individual Rare Earth Elements (La, Ce, or Nd) on Creep Resistance of Dieâ€Cast Magnesium Alloy AE44. Advanced Engineering Materials, 2016, 18, 932-937.	3.5	38
38	Effect of building direction on porosity and fatigue life of selective laser melted AlSi12Mg alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 729, 76-85.	5.6	38
39	Effects of quench rate and natural ageing on the age hardening behaviour of aluminium alloy AA6060. Materials Characterization, 2016, 111, 43-52.	4.4	36
40	Solute Content and the Grain Microstructure of High Pressure Diecast Magnesiumâ€“Aluminium Alloys. Advanced Engineering Materials, 2009, 11, 912-919.	3.5	35
41	Failure modes during uniaxial deformation of magnesium alloy AZ31B tubes. International Journal of Mechanical Sciences, 2010, 52, 1634-1645.	6.7	35
42	Grain refinement in laser remelted Mg-3Nd-1Gd-0.5Zr alloy. Scripta Materialia, 2020, 183, 12-16.	5.2	35
43	Microstructure and property evaluation of high-pressure die-cast Mgâ€“Laâ€“rare earth (Nd, Y or Gd) alloys. Journal of Alloys and Compounds, 2014, 597, 21-29.	5.5	34
44	Thermodynamic analysis of as-cast and heat-treated microstructures of Mgâ€“Ceâ€“Nd alloys. Acta Materialia, 2011, 59, 613-622.	7.9	33
45	Phase analysis of Mgâ€“Laâ€“Nd and Mgâ€“Laâ€“Ce alloys. Intermetallics, 2012, 28, 92-101.	3.9	33
46	Crystallographic study of grain refinement of Al by Nb addition. Journal of Applied Crystallography, 2014, 47, 770-779.	4.5	32
47	Proof stress measurement of die-cast magnesium alloys. Materials and Design, 2016, 112, 402-409.	7.0	32
48	Feeding and Distribution of Porosity in Cast Al-Si Alloys as Function of Alloy Composition and Modification. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 4846-4858.	2.2	30
49	Microstructural characterization of high pressure die cast Mg-Zn-Al-RE alloys. Materials Characterization, 2012, 65, 28-36.	4.4	30
50	The influence of Zn additions on the microstructure and creep resistance of high pressure die cast magnesium alloy AE44. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 539, 177-184.	5.6	30
51	A new multi-zone model for porosity distribution in Alâ€“Si alloy castings. Acta Materialia, 2013, 61, 3037-3049.	7.9	30
52	The Influence of the Effect of Solute on the Thermodynamic Driving Force on Grain Refinement of Al Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2015, 46, 505-515.	2.2	29
53	Microstructure and mechanical properties of an extruded Mg-Dy-Ni alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 760, 246-257.	5.6	29
54	Grain Morphology of As-Cast Wrought Aluminium Alloys. Materials Transactions, 2011, 52, 842-847.	1.2	28

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55	Effects of Cooling Rate and Solute Content on the Grain Refinement of Mg-Gd-Y Alloys by Aluminum. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 4665-4678.	2.2	24
56	Refining prior-Î² grains of Tiâ€“6Alâ€“4V alloy through yttrium addition. Journal of Alloys and Compounds, 2020, 841, 155733.	5.5	24
57	Dispersoid Phases in 6xxx Series Aluminium Alloys. Materials Science Forum, 0, 654-656, 926-929.	0.3	23
58	Strengthening by the percolating intergranular eutectic in an HPDC Mgâ€“Ce alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 599, 204-211.	5.6	23
59	A comparative study of the role of solute, potent particles and ultrasonic treatment during solidification of pure Mg, Mgâ€“Zn and Mgâ€“Zr alloys. Journal of Magnesium and Alloys, 2020, , .	11.9	23
60	Active gap capacitance electrical discharge machining of polycrystalline diamond. Journal of Materials Processing Technology, 2020, 280, 116598.	6.3	23
61	Evaluation of Magnesium Dieâ€Casting Alloys for Elevated Temperature Applications: Castability. Advanced Engineering Materials, 2016, 18, 953-962.	3.5	22
62	Effect of Cooling Rate on the Grain Refinement of Mg-Y-Zr Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 482-496.	2.2	22
63	TPMS Designer: A tool for generating and analyzing triply periodic minimal surfaces. Software Impacts, 2021, 10, 100167.	1.4	22
64	Control and Removal of Impurities from Al Melts: A Review. Materials Science Forum, 0, 693, 149-160.	0.3	21
65	Precipitation process in a Mgâ€“Gdâ€“Y alloy grain-refined by Al addition. Materials Characterization, 2014, 88, 7-14.	4.4	21
66	Influences of Nickel and Vanadium Impurities on Microstructure of Aluminum Alloys. Jom, 2013, 65, 584-592.	1.9	20
67	Microstructure and hardness characterisation of laser coatings produced with a mixture of AISI 420 stainless steel and Fe-C-Cr-Nb-B-Mo steel alloy powders. Surface and Coatings Technology, 2016, 296, 76-87.	4.8	20
68	Refining As-cast Î²-Ti Grains Through ZrN Inoculation. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 1444-1449.	2.2	19
69	The Strength of the Spatially Interconnected Eutectic Network in HPDC Mg-La, Mg-Nd, and Mg-La-Nd Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 4386-4397.	2.2	18
70	Strain-rate sensitivity of die-cast magnesium-aluminium based alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 699, 239-246.	5.6	18
71	Quench Sensitivity in a Dispersoid-Containing Al-Mg-Si Alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 1957-1969.	2.2	18
72	Effect of alloy composition and laser powder bed fusion parameters on the defect formation and mechanical properties of Inconel 625. International Journal of Advanced Manufacturing Technology, 2021, 114, 915-927.	3.0	18

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73	Strengthening Micromechanisms in Cold-Chamber High-Pressure Die-Cast Mg-Al Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 4117-4128.	2.2	16
74	Influence of delay strategies and residual heat on in-situ tempering in the laser metal deposition of 300M high strength steel. Surface and Coatings Technology, 2020, 383, 125279.	4.8	16
75	Grain Refinement and Hot Tearing of Aluminium Alloys - How to Optimise and Minimise. Materials Science Forum, 0, 630, 213-221.	0.3	15
76	Compressive Creep Behavior of High-Pressure Die-Cast Aluminum-Containing Magnesium Alloys Developed for Elevated Temperature Applications. Frontiers in Materials, 2019, 6, .	2.4	14
77	Microstructure, abrasive wear and corrosion characterisation of laser metal deposited Fe-30Cr-6Mo-10Ni-2.2C alloy. Wear, 2019, 438-439, 203070.	3.1	14
78	Effect of process parameters and grain refinement on hot tearing susceptibility of high strength aluminum alloy 2139 in laser powder bed fusion. Progress in Additive Manufacturing, 2022, 7, 887-901.	4.8	14
79	Deformation Behavior of the Percolating Eutectic Intermetallic in HPDC and Squeeze-Cast Mg Alloys. Jom, 2014, 66, 2086-2094.	1.9	13
80	Anelasticity of die-cast magnesium-aluminium based alloys under different strain rates. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 707, 101-109.	5.6	13
81	An Analysis of the Tensile Deformation Behavior of Commercial Die-Cast Magnesium-Aluminum-Based Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 3827-3841.	2.2	13
82	Influence of SiC Particles on the Grain Refinement of an Mg-Al Alloy. Materials Science Forum, 0, 618-619, 445-448.	0.3	12
83	Introduction to the Interdependence Theory of Grain Formation and its Application to Aluminium, Magnesium and Titanium Alloys. Materials Science Forum, 0, 690, 206-209.	0.3	12
84	The Grain Refinement of Al-Si Alloys and the Cause of Si Poisoning: Insights Revealed by the Interdependence Model. Materials Science Forum, 0, 794-796, 161-166.	0.3	12
85	Revisiting the intermetallic phases in high-pressure die-cast Mgâ€“4Alâ€“4Ce and Mgâ€“4Alâ€“4La alloys. Materials Characterization, 2019, 156, 109839.	4.4	12
86	Selective laser melting of Inconel 625 alloy with reduced defect formation. Journal of Laser Applications, 2020, 32, .	1.7	12
87	Hot Tearing in Al-Mg-Si Alloys with Minor Additions of Cu or Mn. Materials Science Forum, 0, 693, 217-223.	0.3	11
88	The Effect of Solidification Dynamics on the Formation of the Skin in Die Cast Mgâ€“Al and Mgâ€“RE Alloys. Advanced Engineering Materials, 2013, 15, 302-307.	3.5	11
89	(Al,Mg)₃La: a new phase in the Mgâ€“Alâ€“La system. Acta Crystallographica Section B: Structural Science, Crystal Engineering and Materials, 2018, 74, 370-375.	1.1	11
90	Characterization and Formation of Rod-Shaped (Al,Si)3Ti Particles in an Al-7Si-0.35Mg-0.12Ti (WtÂPct) Alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2015, 46, 3723-3731.	2.2	8

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91	Modeling and simulation of microstructural evolution in Zr based Bulk Metallic Glass Matrix Composites during solidification. MRS Advances, 2017, 2, 3591-3606.	0.9	8
92	The effect of heat treatment on the abrasive and erosive wear behaviour of laser metal deposited Feâ€“28Crâ€“2.7C alloy. Wear, 2020, 458-459, 203410.	3.1	8
93	Solidification path and microstructure evolution of Mg-3Al-14La alloy: Implications for the Mg-rich corner of the Mg-Al-La phase diagram. Journal of Alloys and Compounds, 2019, 784, 527-534.	5.5	7
94	Role of Solute Content on the Intermetallic Structure Development in HPDC Mg-Al Binary Alloys. Materials Science Forum, 2009, 618-619, 479-482.	0.3	6
95	On the Creep Resistance of HPDC Mg-RE Based Alloys. Materials Science Forum, 2009, 618-619, 453-458.	0.3	5
96	Development of Magnesium-Rare Earth Die-Casting Alloys. Minerals, Metals and Materials Series, 2018, , 329-336.	0.4	5
97	The Influence of Eutectic Morphology on the Impact Properties of High Pressure Die Cast Mg-Rare-Earth Alloys. Materials Science Forum, 2010, 654-656, 683-686.	0.3	4
98	A rational interpretation of solidification microstructures in the Mg-rich corner of the Mgâ€“Alâ€“La system. Journal of Alloys and Compounds, 2020, 844, 156068.	5.5	4
99	A Brief History of the Grain Refinement of Cast Light Alloys. Materials Science Forum, 0, 765, 123-129.	0.3	3
100	The effect of pre-heat temperature on the microstructure and abrasive wear properties of laser metal deposited near-eutectic Fe-28Cr-2.9C alloy. Journal of Laser Applications, 2020, 32, .	1.7	3
101	The Skin Effect in an Mg-RE High Pressure Die Cast Alloy. Materials Science Forum, 2010, 654-656, 691-694.	0.3	2
102	Castability of some Magnesium Alloys in a Novel Castability Die. Materials Science Forum, 0, 690, 61-64.	0.3	2
103	Achievements in Magnesium Alloy Research. Materials Science Forum, 0, 828-829, 3-8.	0.3	2
104	Effects of Laser Surface Remelting on Microstructure and Corrosion Properties of Mg-12Dy-1.1Ni Alloy. Journal of Materials Engineering and Performance, 2023, 32, 2587-2597.	2.5	2
105	Cross-Sectional Geometry and the Intermetallics Structure in a High Pressure Die Cast Mg-Al Alloy. Materials Science Forum, 2010, 638-642, 1579-1584.	0.3	1
106	Effects of Heat Treatment on a High-Pressure Die-Cast Mg-La-Y Alloy. Materials Science Forum, 0, 690, 210-213.	0.3	1
107	Thermodynamic Analysis of As-cast and Heat Treated Microstructures of Mg-Ce-Nd Alloys. , 2011, , 167-167.		0
108	Modelling Eutectic Growth in Unmodified and Modified Near-Eutectic Al-Si Alloy. Materials Science Forum, 0, 765, 160-164.	0.3	0

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109	Practical Considerations on the Application of Ultrasonic Treatment to Mg-Al Shape Castings. Materials Science Forum, 0, 765, 255-259.	0.3	0
110	On the Solute Diffusion Length in the Interdependence Model: Dendritic versus Non-Dendritic Interface. Materials Science Forum, 0, 828-829, 461-467.	0.3	0
111	An Initial Assessment of the Effects of Increased Ni and V Content in A356 and AA6063 Alloys. Minerals, Metals and Materials Series, 2016, , 39-45.	0.4	0
112	A History of the Global Light Metals Alliance. Minerals, Metals and Materials Series, 2019, , 1687-1696.	0.4	0