Michael Brady

List of Publications by Year
in descending order

128	5,775	66343	82547
papers	citations	42 h-index	72 g-index

134	134	134	3009
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	High temperature oxidation of fuel cladding candidate materials in steamâ€“hydrogen environments. Journal of Nuclear Materials, 2013, 440, 420-427.	2.7	363
2	Creep-Resistant, Al2O3-Forming Austenitic Stainless Steels. Science, 2007, 316, 433-436.	12.6	337
3	Physical metallurgy and mechanical properties of transition-metal Laves phase alloys. Intermetallics, 2000, 8, 1119-1129.	3.9	198
4	The oxidation and protection of gamma titanium aluminides. Jom, 1996, 48, 46-50.	1.9	177
5	Alloy design strategies for promoting protective oxide-scale formation. Jom, 2000, 52, 16-21.	1.9	174
6	Preferential thermal nitridation to form pin-hole free Cr-nitrides to protect proton exchange membrane fuel cell metallic bipolar plates. Scripta Materialia, 2004, 50, 1017-1022.	5.2	168
7	Oxidation of fuel cladding candidate materials in steam environments at high temperature and pressure. Journal of Nuclear Materials, 2012, 427, 396-400.	2.7	145
8	Thermally nitrided stainless steels for polymer electrolyte membrane fuel cell bipolar plates. Journal of Power Sources, 2004, 138, 79-85.	7.8	142
9	Alumina-Forming Austenitic Stainless Steels Strengthened by Laves Phase and MC Carbide Precipitates. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2007, 38, 2737-2746.	2.2	139
10	The development of alumina-forming austenitic stainless steels for high-temperature structural use. Jom, 2008, 60, 12-18.	1.9	136
11	Composition, Microstructure, and Water Vapor Effects on Internal/External Oxidation of Alumina-Forming Austenitic Stainless Steels. Oxidation of Metals, 2009, 72, 311-333.	2.1	134
12	Effects of minor alloy additions and oxidation temperature on protective alumina scale formation in creep-resistant austenitic stainless steels. Scripta Materialia, 2007, 57, 1117-1120.	5.2	132
13	Overview of Strategies for High-Temperature Creep and Oxidation Resistance of Alumina-Forming Austenitic Stainless Steels. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 922-931.	2.2	131
14	Alloying effects on creep and oxidation resistance of austenitic stainless steel alloys employing intermetallic precipitates. Intermetallics, 2008, 16, 453-462.	3.9	130
15	Film Breakdown and Nano-Porous Mg(OH)₂Formation from Corrosion of Magnesium Alloys in Salt Solutions. Journal of the Electrochemical Society, 2015, 162, C140-C149.	2.9	128
16	Thermally nitrided stainless steels for polymer electrolyte membrane fuel cell bipolar plates. Journal of Power Sources, 2004, 138, 86-93.	7.8	120
17	Transmission Electron Microscopy Study of Aqueous Film Formation and Evolution on Magnesium Alloys. Journal of the Electrochemical Society, 2014, 161, C302-C311.	2.9	111
18	Co-optimization of wrought alumina-forming austenitic stainless steel composition ranges for high-temperature creep and oxidation/corrosion resistance. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 590, 101-115.	5.6	109

#	Article	IF	Citations
19	Microstructure and Residual Stress of Alumina Scale Formed on Ti2AlC at High Temperature in Air. Oxidation of Metals, 2007, 68, 97-111.	2.1	102
20	The role of Cr in promoting protective alumina scale formation by Î³-based Ti_Al_Cr alloysâ€" II. Oxidation behavior in air. Acta Materialia, 1997, 45, 2371-2382.	7.9	100
21	Development of L12-ordered Ni3(Al,Ti)-strengthened alumina-forming austenitic stainless steel alloys. Scripta Materialia, 2013, 69, 816-819.	5.2	99
22	Growth of Cr-Nitrides on commercial Niâ€"Cr and Feâ€"Cr base alloys to protect PEMFC bipolar plates. International Journal of Hydrogen Energy, 2007, 32, 3778-3788.	7.1	98
23	The role of Cr in promoting protective alumina scale formation by Î³-based Ti_Al_Cr alloysâ€"I. Compatibility with alumina and oxidation behavior in oxygen. Acta Materialia, 1997, 45, 2357-2369.	7.9	97
24	Effect of Alloying Additions on Phase Equilibria and Creep Resistance of Alumina-Forming Austenitic Stainless Steels. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2009, 40, 1868-1880.	2.2	97
25	Corrosion behavior of CrN, Cr2N and Ï€ phase surfaces on nitrided Niâ€"50Cr for proton exchange membrane fuel cell bipolar plates. Corrosion Science, 2006, 48, 3157-3171.	6.6	92
26	Increasing the Upper Temperature Oxidation Limit of Alumina Forming Austenitic Stainless Steels in Air with Water Vapor. Oxidation of Metals, 2011, 75, 337-357.	2.1	85
27	Assessment of Thermal Nitridation to Protect Metal Bipolar Plates in Polymer Electrolyte Membrane Fuel Cells. Electrochemical and Solid-State Letters, 2002, 5, A245.	2.2	74
28	Degradation of SS316L bipolar plates in simulated fuel cell environment: Corrosion rate, barrier film formation kinetics and contact resistance. Journal of Power Sources, 2015, 273, 1237-1249.	7.8	69
29	Modern data analytics approach to predict creep of high-temperature alloys. Acta Materialia, 2019, 168, 321-330.	7.9	69
30	Corrosion of aluminaâ€forming austenitic steel in molten nitrate salts by gravimetric analysis and impedance spectroscopy. Materials and Corrosion - Werkstoffe Und Korrosion, 2014, 65, 267-275.	1.5	64
31	The formation of protective nitride surfaces for PEM fuel cell metallic bipolar plates. Jom, 2006, 58, 50-57.	1.9	62
32	Aging effects on the mechanical properties of alumina-forming austenitic stainless steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 2079-2086.	5.6	61
33	Thin film surface modifications of thin/tunable liquid/gas diffusion layers for high-efficiency proton exchange membrane electrolyzer cells. Applied Energy, 2017, 206, 983-990.	10.1	58
34	Evaluation of Mn substitution for Ni in alumina-forming austenitic stainless steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 524, 176-185.	5.6	56
35	Electrochemical investigation of stainless steel corrosion in a proton exchange membrane electrolyzer cell. International Journal of Hydrogen Energy, 2015, 40, 12506-12511.	7.1	54
36	Alloy design of intermetallics for protective scale formation and for use as precursors for complex ceramic phase surfaces. Intermetallics, 2004, 12, 779-789.	3.9	53

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37	Developing titanium micro/nano porous layers on planar thin/tunable LGDLs for high-efficiency hydrogen production. International Journal of Hydrogen Energy, 2018, 43, 14618-14628.	7.1	52
38	A low-Cr metallic interconnect for intermediate-temperature solid oxide fuel cells. Journal of Power Sources, 2007, 172, 775-781.	7.8	51
39	Evaluation of nitrided titanium separator plates for proton exchange membrane electrolyzer cells. Journal of Power Sources, 2014, 272, 954-960.	7.8	51
40	Oxidation resistance and mechanical properties of Laves phase reinforced Cr in-situ composites. Intermetallics, 2000, 8, 1111-1118.	3.9	50
41	Microstructure of alumina-forming oxidation resistant Al-Ti-Cr alloys. Scripta Metallurgica Et Materialia, 1995, 32, 1659-1664.	1.0	46
42	Thermodynamics of Selected Ti-Al and Ti-Al-Cr Alloys. Oxidation of Metals, 1999, 52, 537-556.	2.1	45
43	Protective nitride formation on stainless steel alloys for proton exchange membrane fuel cell bipolar plates. Journal of Power Sources, 2007, 174, 228-236.	7.8	45
44	Pre-oxidized and nitrided stainless steel alloy foil for proton exchange membrane fuel cell bipolar plates: Part 1. Corrosion, interfacial contact resistance, and surface structure. Journal of Power Sources, 2010, 195, 5610-5618.	7.8	41
45	Long-Term Oxidation of Candidate Cast Iron and Stainless Steel Exhaust System Alloys from 650 to 800ÂÂ°C in Air with Water Vapor. Oxidation of Metals, 2014, 82, 359-381.	2.1	37
46	A phosphoric acid surface treatment for improved oxidation resistance of gamma titanium aluminides. Intermetallics, 1998, 6, 335-337.	3.9	36
47	Manufacturing and performance assessment of stamped, laser welded, and nitrided FeCrV stainless steel bipolar plates for proton exchange membrane fuel cells. International Journal of Hydrogen Energy, 2013, 38, 4734-4739.	7.1	34
48	Performance of chromia- and alumina-forming Fe- and Ni-base alloys exposed to metal dusting environments: The effect of water vapor and temperature. Corrosion Science, 2015, 92, 58-68.	6.6	32
49	Insights from a Recent Meeting: Current Status and Future Directions in Magnesium Corrosion Research. Corrosion, 2017, 73, 452-462.	1.1	32
50	Effects of Fe additions on the mechanical properties and oxidation behavior of CrTa Laves phase reinforced Cr. Scripta Materialia, 2005, 52, 815-819.	5.2	30
51	Comparison of Oxidation Behavior and Electrical Properties of Doped NiO- and Cr2O3-Forming Alloys for Solid-Oxide, Fuel-Cell Metallic Interconnects. Oxidation of Metals, 2006, 65, 237-261.	2.1	30
52	Tracer Film Growth Study of Hydrogen and Oxygen from the Corrosion of Magnesium in Water. Journal of the Electrochemical Society, 2014, 161, C395-C404.	2.9	30
53	The corrosion and passivity of sputtered Mgâ€“Ti alloys. Corrosion Science, 2016, 104, 36-46.	6.6	27
54	Advanced characterization study of commercial conversion and electrocoating structures on magnesium alloys AZ31B and ZE10A. Surface and Coatings Technology, 2016, 294, 164-176.	4.8	25

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55	Oxidation Behavior of Cr₂N, CrNbN, and CrTaN Phase Mixtures Formed on Nitrided Cr and Laves-Reinforced Cr Alloys. Oxidation of Metals, 2004, 61, 379-401.	2.1	24
56	Study on corrosion migrations within catalyst-coated membranes of proton exchangeÂmembrane electrolyzer cells. International Journal of Hydrogen Energy, 2017, 42, 27343-27349.	7.1	24
57	Service Limitations for Oxidation Resistant Intermetallic Compounds. Materials Research Society Symposia Proceedings, 1994, 364, 1273.	0.1	23
58	Wet oxidation of stainless steels: New insights into hydrogen ingress. Corrosion Science, 2011, 53, 1633-1638.	6.6	22
59	Corrosion of stainless steels in the riser during co-processing of bio-oils in a fluid catalytic cracking pilot plant. Fuel Processing Technology, 2017, 159, 187-199.	7.2	22
60	Pre-oxidized and nitrided stainless steel alloy foil for proton exchange membrane fuel cell bipolar plates. Part 2: Single-cell fuel cell evaluation of stamped plates. Journal of Power Sources, 2010, 195, 5619-5627.	7.8	21
61	Development of Cast Alumina-Forming Austenitic Stainless Steels. Jom, 2016, 68, 2803-2810.	1.9	21
62	Development of 1100ÂÂ°C Capable Alumina-Forming Austenitic Alloys. Oxidation of Metals, 2017, 87, 1-10.	2.1	21
63	Oxidation Behavior of Two-Phase Î³ + Ïƒ Nb-Ti-Al Alloys. Oxidation of Metals, 1999, 51, 539-556.	2.1	19
64	Characterization of erosion and failure processes of spark plugs after field service in natural gas engines. Wear, 2005, 259, 1063-1067.	3.1	19
65	Tracer Film Growth Study of the Corrosion of Magnesium Alloys AZ31B and ZE10A in 0.01% NaCl Solution. Journal of the Electrochemical Society, 2017, 164, C367-C375.	2.9	19
66	The Effects of Water Vapor on the Oxidation Behavior of Alumina Forming Austenitic Stainless Steels. Oxidation of Metals, 2015, 84, 541-565.	2.1	18
67	Corrosion Susceptibility of Crâ€“Mo Steels and Ferritic Stainless Steels in Biomass-Derived Pyrolysis Oil Constituents. Energy & Fuels, 2020, 34, 6220-6228.	5.1	18
68	Nitrogen impurity gettering in oxide dispersion ductilized chromium. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 358, 243-254.	5.6	16
69	Corrosion Considerations for Thermochemical Biomass Liquefaction Process Systems in Biofuel Production. Jom, 2014, 66, 2583-2592.	1.9	16
70	Mechanical and Corrosion Assessment of Friction Self-Piercing Rivet Joint of Carbon Fiber-Reinforced Polymer and Magnesium Alloy AZ31B. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2021, 143, .	2.2	16
71	Chromium evaporation and oxidation characteristics of alumina-forming austenitic stainless steels for balance of plant applications in solid oxide fuel cells. International Journal of Hydrogen Energy, 2021, 46, 21619-21633.	7.1	15
72	Evaluation of Alumina-Forming Austenitic Foil for Advanced Recuperators. Journal of Engineering for Gas Turbines and Power, 2011, 133, .	1.1	14

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73	Rapid Diffusion and Nanosegregation of Hydrogen in Magnesium Alloys from Exposure to Water. ACS Applied Materials & Interfaces, 2017, 9, 38125-38134.	8.0	14
74	Coating and near-surface modification design strategies for protective and functional surfaces. Materials and Corrosion - Werkstoffe Und Korrosion, 2005, 56, 748-755.	1.5	13
75	Study of galvanic corrosion and mechanical joint properties of AZ31B and carbon-fiberâ€“reinforced polymer joined by friction self-piercing riveting. Journal of Magnesium and Alloys, 2022, 10, 400-410.	11.9	13
76	Synthesis of Ternary Nitrides from Intermetallic Precursors:â€‰ Modes of Nitridation in Model Cr3Pt Alloys To Form Cr3PtN Antiperovskite and Application to Other Systems. Chemistry of Materials, 2004, 16, 1984-1990.	6.7	12
77	Metal dusting of ferritic Feâ€“Ge in the absence of cementite. Scripta Materialia, 2007, 56, 281-284.	5.2	12
78	Alloy Corrosion Considerations in Low-Cost, Clean Biomass Cookstoves for the Developing World. Energy for Sustainable Development, 2017, 37, 20-32.	4.5	12
79	Magnesium Alloy Effects on Plasma Electrolytic Oxidation Electro-Ceramic and Electro-Coat Formation and Corrosion Resistance. Journal of the Electrochemical Society, 2019, 166, C492-C508.	2.9	12
80	Approaches to investigate the role of chelation in the corrosivity of biomass-derived oils. Biomass and Bioenergy, 2020, 133, 105446.	5.7	12
81	Correlation of alloy microstructure with oxidation behavior in chromia-forming intermetallic-reinforced Cr alloys. Materials at High Temperatures, 2000, 17, 235-243.	1.0	12
82	Templated growth of a complex nitride island dispersion through an internal nitridation reaction. Journal of Materials Research, 2001, 16, 2784-2787.	2.6	11
83	Effects of Fe on the oxidation/internal nitridation behavior and tensile properties of Cr and oxide dispersion ductilized Cr. Scripta Materialia, 2005, 52, 809-814.	5.2	11
84	Small-angle neutron scattering study of the wet and dry high-temperature oxidation of alumina- and chromia-forming stainless steels. Corrosion Science, 2012, 58, 121-132.	6.6	11
85	On the transition to protective alumina formation at high temperature in Nb-Ti-Al alloys. Scripta Metallurgica Et Materialia, 1993, 28, 115-120.	1.0	10
86	Microstructure/Oxidation/Microhardness Correlations in Î³-Based And ãƒ„-Based Ai-Ti-Cr Alloys. Materials Research Society Symposia Proceedings, 1994, 364, 1309.	0.1	10
87	Title is missing!. Oxidation of Metals, 2002, 58, 297-318.	2.1	10
88	Sulfidationâ€“Oxidation Behavior of FeCrAl and TiCrAl and the Third-Element Effect. Oxidation of Metals, 2010, 74, 1-9.	2.1	10
89	Comparison of Short-Term Oxidation Behavior of Model and Commercial Chromia-Forming Ferritic Stainless Steels in Dry and Wet Air. Oxidation of Metals, 2012, 78, 1-16.	2.1	10
90	The impact of carbon coating on the synthesis and properties of Î±â€²â€²-Fe16N2 powders. Physical Chemistry Chemical Physics, 2016, 18, 13010-13017.	2.8	10

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91	On the improvement of the ductility of molybdenum by spinel (MgAl₂O₄) particles. International Journal of Materials Research, 2005, 96, 632-637.	0.8	9
92	9 T high magnetic field annealing effects on FeN bulk sample. Journal of Applied Physics, 2014, 115, 17A758.	2.5	9
93	Tracer study of oxygen and hydrogen uptake by Mg alloys in air with water vapor. Scripta Materialia, 2015, 106, 38-41.	5.2	8
94	Role of Cr Content in Microstructure, Creep, and Oxidation Resistance of Alumina-Forming Austenitic Alloys at 850â€“900 Â°C. Metals, 2022, 12, 717.	2.3	8
95	Modification of Microstructure for Improved Oxidation Resistance in Î³-Based Ti-Al-X Alloys. Materials and Manufacturing Processes, 1996, 11, 635-653.	4.7	7
96	Feasibility assessment of self-grading metallic bond coat alloys for EBCs/TBCs to protect Si-Based ceramics. Scripta Materialia, 2005, 52, 393-397.	5.2	6
97	Nitridation of a Super-Ferritic Stainless Steel for PEMFC Bipolar Plate. ECS Transactions, 2007, 11, 1461-1471.	0.5	6
98	Modeling the effect of water vapor on the interfacial behavior of high-temperature air in contact with Fe20Cr surfaces. Scripta Materialia, 2011, 64, 1027-1030.	5.2	6
99	Effect of Mo dispersion size and water vapor on oxidation of two-phase directionally solidified NiAlâ€“9Mo in-situ composites. Scripta Materialia, 2014, 80, 33-36.	5.2	6
100	Field and Laboratory Evaluations of Commercial and Next-Generation Alumina-Forming Austenitic Foil for Advanced Recuperators. Journal of Engineering for Gas Turbines and Power, 2016, 138, .	1.1	6
101	Characterization of Localized Filament Corrosion Products at the Anodic Head on a Model Mg-Zn-Zr Alloy Surface. Corrosion, 2017, 73, 518-525.	1.1	6
102	Development of Creep-Resistant, Alumina-Forming Ferrous Alloys for High-Temperature Structural Use. , 2018, , .		6
103	Uncertainty Quantification of Machine Learning Predicted Creep Property of Alumina-Forming Austenitic Alloys. Jom, 2021, 73, 164-173.	1.9	6
104	Corrosion of Ferrous Structural Alloys in Biomass Derived Fuels and Organic Acids. Energy & Fuels, 2021, 35, 12175-12186.	5.1	6
105	Measuring oxygen solubility in Ni grains and boundaries after oxidation using atom probe tomography. Scripta Materialia, 2022, 210, 114411.	5.2	6
106	Alumina-Forming Austenitic Alloys for Advanced Recuperators. , 2007, , .		5
107	Temporal Evolution of Corrosion Film Nano-Porosity and Magnesium Alloy Hydrogen Penetration in NaCl Solution. Journal of the Electrochemical Society, 2020, 167, 131513.	2.9	5
108	Compatibility of Alumina-Forming Austenitic Steels in Static and Flowing Pb. Jom, 2021, 73, 4016-4022.	1.9	5

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109	Long Term Oxidation of Model and Engineering TiAl Alloys. Materials Research Society Symposia Proceedings, 2000, 646, 444.	0.1	4
110	Development of Alumina-Forming Austenitic Alloys for Solid Oxide Fuel Cell Balance of Plant Components. ECS Meeting Abstracts, 2021, MA2021-01, 794-794.	0.0	4
111	Interdiffusion in Î³ (face-centered cubic) Ni-Cr-X (X=Al, Si, Ge, or Pd) alloys at 900 Â°C. Journal of Phase Equilibria and Diffusion, 2006, 27, 665-670.	1.4	3
112	Development of Alumina-Forming Austenitic Alloys for Advanced Recuperators. , 2009, , .		3
113	Evaluation of Commercial and Next Generation Alumina-Forming Austenitic Foil for Advanced Recuperators. , 2013, , .		3
114	Degradation of Components After Exposure in a Biomass Pyrolysis System. Corrosion, 2019, 75, 1136-1145.	1.1	3
115	Creep Behavior and Phase Equilibria in Model Precipitate Strengthened Alumina-Forming Austenitic Alloys. Jom, 2022, 74, 1453-1468.	1.9	3
116	The effect of nitrogen on the oxidation behavior of 25Nbî—¸25Tiî—¸50Al. Scripta Metallurgica Et Materialia, 1992, 26, 767-770.	1.0	2
117	Evaluation of Commercial Alumina-Forming Austenitic Foil for Advanced Recuperators. , 2011, , .		2
118	Interdiffusion in Î³ (Face-Centered Cubic) Ni-Cr-<I>X</I> (<I>X</I> = Al, Si, Ge, or Pd) Alloys at 900 Â°C. Journal of Phase Equilibria and Diffusion, 2006, 27, 665-670.	1.4	2
119	Micromachining of bipolar plates used in proton exchange membrane fuel cells. International Journal of Manufacturing Technology and Management, 2008, 13, 124.	0.1	1
120	Elastic and Plastic Properties of Gamma + Laves Phase In-situ Composite Alloys Using Nanoindentation Techniques. Materials Research Society Symposia Proceedings, 1998, 552, 1.	0.1	0
121	Machining of proton exchange membrane fuel cells using micromilling tools. , 0, , .		0
122	Characterization and Mitigation of Spark Plug Electrode Erosion in Natural Gas and Automotive Engine Applications. , 2007, , 675.		0
123	Design strategies for oxidation-resistant intermetallic and advanced metallic alloys. , 2008, , 3-18.		0
124	Corrosion as a nanostructure synthesis strategy. Jom, 2010, 62, 31-31.	1.9	0
125	Intro to Special Issue. International Journal of Hydrogen Energy, 2011, 36, 4518-4518.	7.1	0
126	Field and Laboratory Evaluations of Commercial and Next Generation Alumina-Forming Austenitic Foil for Advanced Recuperators. , 2015, , .		0

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127	Surface Oxide Nanopillars Formed by Atmospheric Plasma. Microscopy and Microanalysis, 2019, 25, 754-755.	0.4	0
128	Evaluation of Alumina-Forming Austenitic Foil for Advanced Recuperators. , 2010, , .		0