Daniel HÃ¶che

List of Publications by Year
in descending order

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78	2,943	172443	175241
papers	citations	29 h-index	52 g-index

79	79	79	2492
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Fast escape of hydrogen from gas cavities around corroding magnesium implants. Acta Biomaterialia, 2013, 9, 8714-8721.	8.3	237
2	Comprehensive screening of Mg corrosion inhibitors. Corrosion Science, 2017, 128, 224-240.	6.6	206
3	Mg-Ca binary alloys as anodes for primary Mg-air batteries. Journal of Power Sources, 2018, 396, 109-118.	7.8	193
4	Double Stimuliâ€Responsive Isoporous Membranes via Postâ€Modification of pHâ€Sensitive Selfâ€Assembled Diblock Copolymer Membranes. Advanced Functional Materials, 2013, 23, 731-738.	14.9	192
5	The effect of iron re-deposition on the corrosion of impurity-containing magnesium. Physical Chemistry Chemical Physics, 2016, 18, 1279-1291.	2.8	140
6	A new concept for corrosion inhibition of magnesium: Suppression of iron re-deposition. Electrochemistry Communications, 2016, 62, 5-8.	4.7	100
7	Element distribution in the corrosion layer and cytotoxicity of alloy Mgâ€“10Dy during in vitro biodegradation. Acta Biomaterialia, 2013, 9, 8475-8487.	8.3	87
8	Clarifying the decisive factors for utilization efficiency of Mg anodes for primary aqueous batteries. Journal of Power Sources, 2019, 441, 227201.	7.8	86
9	XPS Studies of Magnesium Surfaces after Exposure to Dulbecco's Modified Eagle Medium, Hank's Buffered Salt Solution, and Simulated Body Fluid. Advanced Engineering Materials, 2010, 12, B699.	3.5	83
10	Ca/In micro alloying as a novel strategy to simultaneously enhance power and energy density of primary Mg-air batteries from anode aspect. Journal of Power Sources, 2020, 472, 228528.	7.8	76
11	Approaching â€œstainless magnesiumâ€•by Ca micro-alloying. Materials Horizons, 2021, 8, 589-596.	12.2	76
12	Revealing the impact of second phase morphology on discharge properties of binary Mg-Ca anodes for primary Mg-air batteries. Corrosion Science, 2019, 153, 225-235.	6.6	67
13	Insight into physical interpretation of high frequency time constant in electrochemical impedance spectra of Mg. Corrosion Science, 2021, 187, 109501.	6.6	64
14	Role of sintering and clay particle additions on coating formation during PEO processing of AM50 magnesium alloy. Surface and Coatings Technology, 2012, 213, 48-58.	4.8	57
15	Magnesium secondary alloys: Alloy design for magnesium alloys with improved tolerance limits against impurities. Corrosion Science, 2010, 52, 2452-2468.	6.6	54
16	High-energy and durable aqueous magnesium batteries: Recent advances and perspectives. Energy Storage Materials, 2021, 43, 238-247.	18.0	54
17	Corrosion and discharge properties of Ca/Ge micro-alloyed Mg anodes for primary aqueous Mg batteries. Corrosion Science, 2020, 177, 108958.	6.6	53
18	Galvanic corrosion of Ti6Al4V -AA2024 joints in aircraft environment: Modelling and experimental validation. Corrosion Science, 2019, 157, 70-78.	6.6	51

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19	Cold Spraying of Ti2AlC MAX-Phase Coatings. Journal of Thermal Spray Technology, 2013, 22, 406-412.	3.1	49
20	FEM modelling of a coaxial three-electrode test cell for electrochemical impedance spectroscopy in lithium ion batteries. Journal of Power Sources, 2013, 240, 273-280.	7.8	45
21	Performance boost for primary magnesium cells using iron complexing agents as electrolyte additives. Scientific Reports, 2018, 8, 7578.	3.3	45
22	Prediction of the internal corrosion rate for oil and gas pipeline: Implementation of ensemble learning techniques. Journal of Natural Gas Science and Engineering, 2022, 99, 104425.	4.4	44
23	Simulation of Corrosion Product Deposit Layer Growth on Bare Magnesium Galvanically Coupled to Aluminum. Journal of the Electrochemical Society, 2015, 162, C1-C11.	2.9	43
24	Laser nitriding: investigations on the model system TiN. A review. Heat and Mass Transfer, 2011, 47, 519-540.	2.1	41
25	Marangoni Convection during Free Electron Laser Nitriding of Titanium. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2009, 40, 497-507.	2.1	37
26	Tailoring electrolyte additives for controlled Mg-Ca anode activity in aqueous Mg-air batteries. Journal of Power Sources, 2020, 460, 228106.	7.8	37
27	Tailoring the Mg-air primary battery performance using strong complexing agents as electrolyte additives. Journal of Power Sources, 2020, 453, 227880.	7.8	36
28	CO₂laser nitriding of titanium. Journal Physics D: Applied Physics, 2008, 41, 085208.	2.8	35
29	Data Science Based Mg Corrosion Engineering. Frontiers in Materials, 2019, 6, .	2.4	34
30	Synergistic Mixture of Electrolyte Additives: A Route to a High-Efficiency Mgâ€“Air Battery. Journal of Physical Chemistry Letters, 2020, 11, 8790-8798.	4.6	29
31	Boron carbide coatings for neutron detection probed by x-rays, ions, and neutrons to determine thin film quality. Journal of Applied Physics, 2015, 117, 034901.	2.5	28
32	Influence of Dy in solid solution on the degradation behavior of binary Mg-Dy alloys in cell culture medium. Materials Science and Engineering C, 2017, 75, 1351-1358.	7.3	28
33	Combining peridynamic and finite element simulations to capture the corrosion of degradable bone implants and to predict their residual strength. International Journal of Mechanical Sciences, 2022, 220, 107143.	6.7	28
34	Microstructure of TiN coatings synthesized by direct pulsed Nd:YAG laser nitriding of titanium: Development of grain size, microstrain, and grain orientation. Applied Physics A: Materials Science and Processing, 2008, 91, 305-314.	2.3	27
35	Magnesium nitride phase formation by means of ion beam implantation technique. Applied Surface Science, 2011, 257, 5626-5633.	6.1	27
36	Indium chloride as an electrolyte additive for primary aqueous Mg batteries. Electrochimica Acta, 2021, 373, 137916.	5.2	26

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37	Design of a nitrogen-implanted titanium-based superelastic alloy with optimized properties for biomedical applications. Materials Science and Engineering C, 2013, 33, 4173-4182.	7.3	25
38	Investigation of electrode distance impact on PEO coating formation assisted by simulation. Applied Surface Science, 2016, 388, 304-312.	6.1	25
39	Friction and wear properties modification of Tiâ€“6Alâ€“4V alloy surfaces by implantation of multi-charged carbon ions. Wear, 2014, 319, 19-26.	3.1	24
40	Characterisation and corrosion behaviour of plasma electrolytic oxidation coatings on high pressure die cast Mgâ€“5Alâ€“0.4Mnâ€“xCe (x=0, 0.5, 1) alloys. Surface and Coatings Technology, 2015, 269, 200-211.	4.8	23
41	Laser pulse structure dependent texture of FEL synthesized TiNxcoatings. Journal Physics D: Applied Physics, 2007, 40, 818-825.	2.8	22
42	FEM simulation of the laser plasma interaction during laser nitriding of titanium. Applied Surface Science, 2007, 254, 888-892.	6.1	22
43	TiN-coating formation by pulsed Nd:YAG laser irradiation of titanium in nitrogen. Journal of Coatings Technology Research, 2008, 5, 505-512.	2.5	22
44	Divorced Eutectic Solidification of Mg-Al Alloys. Jom, 2015, 67, 1805-1811.	1.9	22
45	Enhancement of discharge performance for aqueous Mg-air batteries in 2,6-dihydroxybenzoate-containing electrolyte. Chemical Engineering Journal, 2022, 429, 132369.	12.7	22
46	Free electron laser nitriding of metals: From basis physics to industrial applications. Applied Surface Science, 2007, 253, 8041-8044.	6.1	20
47	Direct laser cladding of the silicide dispersed titanium aluminide (Ti45Al5Nb0.5Si) composites. Optics and Laser Technology, 2018, 106, 182-190.	4.6	15
48	Enhanced Predictive Modelling of Steel Corrosion in Concrete in Submerged Zone Based on a Dynamic Activation Approach. International Journal of Concrete Structures and Materials, 2019, 13, .	3.2	15
49	Fundamentals of Laser-Material Interactions. Springer Series in Materials Science, 2010, , 21-47.	0.6	13
50	Laser nitriding and carburization of materials. , 2015, , 33-58.		13
51	Enabling intelligent Mg-sheet processing utilizing efficient machine-learning algorithm. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 794, 139846.	5.6	13
52	Exploring the effect of sodium salt of Ethylenediaminetetraacetic acid as an electrolyte additive on electrochemical behavior of a commercially pure Mg in primary Mg-air batteries. Journal of Power Sources, 2022, 527, 231176.	7.8	13
53	A simple model for longâ€time degradation of magnesium under physiological conditions. Materials and Corrosion - Werkstoffe Und Korrosion, 2018, 69, 191-196.	1.5	12
54	Enhanced predictive corrosion modeling with implicit corrosion products. Materials and Corrosion - Werkstoffe Und Korrosion, 2019, 70, 2247-2255.	1.5	11

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55	Surface characterization and biocompatibility of titanium alloys implanted with nitrogen by Hardion+ technology. Journal of Materials Science: Materials in Medicine, 2012, 23, 2953-66.	3.6	10
56	Digital modelling of the galvanic corrosion behaviour of a selfâ€“piercing riveted AZ31 â€•AA5083â€‰hybrid joint. Materialwissenschaft Und Werkstofftechnik, 2017, 48, 529-545.	0.9	8
57	Mg Alloys: Challenges and Achievements in Controlling Performance, and Future Application Perspectives. Minerals, Metals and Materials Series, 2018, , 3-14.	0.4	8
58	Diffusion, convection, and solidification in cw-mode free electron laser nitrided titanium. Journal of Applied Physics, 2009, 105, 083503.	2.5	7
59	Dual-scale phase-field simulation of Mg-Al alloy solidification. IOP Conference Series: Materials Science and Engineering, 2015, 84, 012069.	0.6	6
60	Computational modelling of magnesium degradation in simulated body fluid under physiological conditions. Journal of Magnesium and Alloys, 2022, 10, 965-978.	11.9	6
61	A mathematical model describing the surface evolution of Mg anode during discharge of aqueous Mg-air battery. Journal of Power Sources, 2022, 542, 231745.	7.8	6
62	Influence of Die Lubricants on Pickling and Conversion Treatment of Highâ€Pressure Dieâ€Cast AM30 Magnesium Alloy. Advanced Engineering Materials, 2012, 14, 227-235.	3.5	5
63	Predictive modeling of longâ€time crevice evolution at eâ€coat defects under climate chamber test conditions. Materials and Corrosion - Werkstoffe Und Korrosion, 2017, 68, 699-710.	1.5	5
64	Enhanced predictive corrosion modeling via randomly distributed boundary conditions. Materials and Corrosion - Werkstoffe Und Korrosion, 2018, 69, 1720-1728.	1.5	5
65	Novel Magnesium Based Materials: Are They Reliable Drone Construction Materials? A Mini Review. Frontiers in Materials, 2021, 8, .	2.4	5
66	Vermeidung von Bimetallkorrosion - Systematische Entwicklung eines Magnesium Karosseriebauteils. Preventing galvanic corrosion - Systematic development of a magnesium car body component. Materialwissenschaft Und Werkstofftechnik, 2010, 41, 853-860.	0.9	4
67	Laser Gasâ€“Assisted Nitriding of Ti Alloys. , 2014, , 261-278.		4
68	Laser clad surfaces for shark-skin effect by high-temperature activation. Surface and Coatings Technology, 2008, 203, 470-475.	4.8	3
69	Monitoring Phase Transition Kinetics in Austempered Ductile Iron (ADI). Materials Science Forum, 2010, 638-642, 3394-3399.	0.3	3
70	Microgalvanic Corrosion of the Magnesiumâ€Aluminum System â€“ Detailed Electrochemical Insights by FEM Simulations. Chemie-Ingenieur-Technik, 2013, 85, 1951-1956.	0.8	3
71	Parallel simulation of the Poissonâ€“Nernstâ€“Planck corrosion model with an algebraic flux correction method. Finite Elements in Analysis and Design, 2022, 206, 103734.	3.2	3
72	Transformation of expanded austenite to an amorphous ferromagnetic surface layer during laser carburization of austenitic stainless steel. HTM - Journal of Heat Treatment and Materials, 2009, 64, 242-248.	0.2	2

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73	Industrial Applications of Laser-Material Interactions for Coating Formation. Springer Series in Materials Science, 2014, , 345-357.	0.6	2
74	Influence of Lanthanum concentration on the Corrosion Behaviour of Binary Mg-La Alloys. , 2011, , 507-511.		1
75	Corrosion of innovative magnesium (Mg) alloys. , 2011, , 234-265.		0
76	Surface cleaning and pre-conditioning surface treatments to improve the corrosion resistance of magnesium (Mg) alloys. , 2013, , 87-109.		0
77	Free Electron Laser Synthesis of Functional Coatings. Springer Series in Materials Science, 2010, , 295-306.	0.6	0
78	10.1063/1.4905716.1. , 2015, , .		0