

Izumi Muto

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

111
papers

1,432
citations

24
h-index

33
g-index

170
ext. papers

1,790
ext. citations

2.6
avg, IF

4.85
L-index

#	Paper	IF	Citations
111	High-Temperature Heat-Treatment at 1673 K: Improvement of Pitting Corrosion Resistance at Inclusions of Type 304 Stainless Steel under Applied Stress. <i>Materials Transactions</i> , 2022 , 63, 265-268	1.3	1
110	Beneficial role of retained austenite in pitting corrosion resistance of Fe-C-Si-Mn steel in chloride environments. <i>Corrosion Science</i> , 2022 , 200, 110251	6.8	1
109	Visualizing the Crevice Corrosion Behavior of Nitrogen-Containing Stainless Steel: Changes in pH and Cl ⁻ Distributions with Initiation, Growth, and Local Repassivation. <i>Zairyo To Kankyo/Corrosion Engineering</i> , 2021 , 70, 250-256	0.5	
108	Electrochemical Properties of Microstructures of Carbon Steels and Metallurgical Approaches for Improving Corrosion Resistance. <i>Materia Japan</i> , 2021 , 60, 784-792	0.1	
107	Cerium addition to CaS inclusions in stainless steel: Insolubilizing water-soluble inclusions and improving pitting corrosion resistance. <i>Corrosion Science</i> , 2021 , 180, 109222	6.8	4
106	The role of applied stress in the anodic dissolution of sulfide inclusions and pit initiation of stainless steels. <i>Corrosion Science</i> , 2021 , 183, 109312	6.8	5
105	Effect of anodizing on galvanic corrosion resistance of Al coupled to Fe or type 430 stainless steel in diluted synthetic seawater. <i>Corrosion Science</i> , 2021 , 179, 109145	6.8	4
104	Morphological Change and Open-circuit Potential of Single Metastable Pit on AA1050 Aluminum in NaCl Solution. <i>Journal of the Electrochemical Society</i> , 2021 , 168, 021504	3.9	3
103	Improving the Pitting Corrosion Resistance of AA1050 Aluminum by Removing Intermetallic Particles during Conversion Treatments. <i>Materials Transactions</i> , 2021 , 62, 1160-1167	1.3	0
102	Effect of Sensitization on Pitting Corrosion at MnS and CrS in Type 304 Stainless Steel. <i>Journal of the Electrochemical Society</i> , 2021 , 168, 091504	3.9	1
101	Pitting at inclusions of the equiatomic CoCrFeMnNi alloy and improving corrosion resistance by potentiodynamic polarization in H ₂ SO ₄ . <i>Corrosion Science</i> , 2021 , 191, 109748	6.8	8
100	Real-time in situ observation of the corrosion process of die-cast AZ91D magnesium alloy in NaCl solutions under galvanostatic polarization. <i>Corrosion Science</i> , 2021 , 192, 109834	6.8	0
99	Roles of Interstitial Nitrogen, Carbon, and Boron in Steel Corrosion: Generation of Oxyanions and Stabilization of Electronic Structure. <i>Journal of the Electrochemical Society</i> , 2020 , 167, 081503	3.9	7
98	Artificial MnS Inclusions in Stainless Steel: Fabrication by Spark Plasma Sintering and Corrosion Evaluation by Microelectrochemical Measurements. <i>ISIJ International</i> , 2020 , 60, 196-198	1.7	7
97	Pit initiation on sensitized Type 304 stainless steel under applied stress: Correlation of stress, Cr-depletion, and inclusion dissolution. <i>Corrosion Science</i> , 2020 , 167, 108506	6.8	27
96	Elucidation of the Initiation of Pitting Corrosion and the Growth of Filiform Corrosion of AZ91D in Aqueous NaCl Electrolyte. <i>ECS Meeting Abstracts</i> , 2020 , MA2020-02, 3561-3561	0	
95	High-Temperature Annealing of Ferritic Stainless Steel: Modification of Sulfide Inclusion Properties and Inhibition of Inclusion Dissolution. <i>Zairyo To Kankyo/Corrosion Engineering</i> , 2020 , 69, 194-198	0.5	1

94	Mechanism of Corrosion Protection at Cut Edge of Zn-11%Al-3%Mg-0.2%Si Coated Steel Sheets. <i>ISIJ International</i> , 2020 , 60, 2038-2043	1.7	0
93	Effect of Impurity Elements on Localized Corrosion of Zirconium in Chloride Containing Environment. <i>Journal of the Electrochemical Society</i> , 2020 , 167, 141507	3.9	2
92	A Corrosion Resistant Sintered Stainless Steel: Type 304L Containing Mo-Rich Phases. <i>Materials Transactions</i> , 2020 , 61, 2248-2251	1.3	3
91	Passivity of (Mn,Cr)S inclusions in type 304 stainless steel: The role of Cr and the critical concentration for preventing inclusion dissolution in NaCl solution. <i>Corrosion Science</i> , 2020 , 176, 109060	6.8	5
90	First-principles analysis of the inhibitive effect of interstitial carbon on an active dissolution of martensitic steel. <i>Corrosion Science</i> , 2020 , 163, 108251	6.8	9
89	Effectiveness of an intercritical heat-treatment on localized corrosion resistance at the microstructural boundaries of medium-carbon steels. <i>Corrosion Science</i> , 2019 , 154, 159-177	6.8	21
88	Elucidating Electrochemical Properties at the Boundary between MnS and Steel Matrix: Towards the Improvement of Pitting Corrosion Resistance of Stainless Steels. <i>Tetsu-To-Hagane/Journal of the Iron and Steel Institute of Japan</i> , 2019 , 105, 207-214	0.5	3
87	Morphological Characteristics of Trenching around MnS Inclusions in Type 316L Stainless Steel: The Role of Molybdenum in Pitting Corrosion Resistance. <i>Journal of the Electrochemical Society</i> , 2019 , 166, C3081-C3089	3.9	25
86	Anodic Polarization Characteristics and Electrochemical Properties of Fe ₃ C in Chloride Solutions. <i>Journal of the Electrochemical Society</i> , 2019 , 166, C345-C351	3.9	10
85	NH ₄ ⁺ Generation: The Role of NO ₃ ⁻ in the Crevice Corrosion Repassivation of Type 316L Stainless Steel. <i>Journal of the Electrochemical Society</i> , 2019 , 166, C250-C260	3.9	4
84	Mechanism of Corrosion Protection at Cut Edge of Zn-11%Al-3%Mg-0.2%Si Coated Steel Sheets. <i>Tetsu-To-Hagane/Journal of the Iron and Steel Institute of Japan</i> , 2019 , 105, 752-758	0.5	3
83	Mechanism for the Morphological Change from Trenching to Pitting around Intermetallic Particles in AA1050 Aluminum. <i>Journal of the Electrochemical Society</i> , 2019 , 166, C19-C32	3.9	9
82	A Methodology for Fabrication of Highly Pitting Corrosion-Resistant Type 304 Stainless Steel by Plasma Carburizing and Post-Pickling Treatment. <i>Journal of the Electrochemical Society</i> , 2018 , 165, C441-C449	3.9	10
81	III. Advanced Electrochemical Methods for Corrosion Study—Micro-scale Polarization— <i>Zairyo To Kankyo/Corrosion Engineering</i> , 2018 , 67, 197-203	0.5	2
80	Observations on Pit Initiation Behavior of Carbon Steel Using Microelectrochemical System with Confocal Laser Scanning Microscopy. <i>Zairyo To Kankyo/Corrosion Engineering</i> , 2018 , 67, 497-501	0.5	0
79	Formation of Pt Skin Layer on Ordered and Disordered Pt-Co Alloys and Corrosion Resistance in Sulfuric Acid. <i>Electrocatalysis</i> , 2018 , 9, 539-549	2.7	7
78	Detection of Hydrogen Distribution in Pure Iron Using WO ₃ Thin Film. <i>ISIJ International</i> , 2018 , 58, 1860-1867	1.7	3
77	Relationships between Pitting Corrosion Potentials and MnS Dissolution of 5–8 Mass% Cr Steels. <i>Journal of the Electrochemical Society</i> , 2018 , 165, C732-C742	3.9	6

76	Improving Pitting Corrosion Resistance at Inclusions and Ductility of a Martensitic Medium-Carbon Steel: Effectiveness of Short-Time Tempering. <i>Journal of the Electrochemical Society</i> , 2018 , 165, C711-C721	3.9	9
75	Real-Time Microelectrochemical Observations of Very Early Stage Pitting on Ferrite-Pearlite Steel in Chloride Solutions. <i>Journal of the Electrochemical Society</i> , 2017 , 164, C261-C268	3.9	25
74	Effect of Plasma Carburizing Treatment on Pitting Corrosion Resistance of Type 304 Stainless Steel. <i>ECS Transactions</i> , 2017 , 75, 1-9	1	
73	Electrochemical Passivation for Sm ₂ Fe ₁₇ N ₃ Magnetic Powders in Non-Aqueous Solvents. <i>Electrochimica Acta</i> , 2017 , 224, 386-396	6.7	1
72	Local Electrochemistry and In Situ Microscopy of Pitting at Sensitized Grain Boundary of Type 304 Stainless Steel in NaCl Solution. <i>Journal of the Electrochemical Society</i> , 2017 , 164, C779-C787	3.9	14
71	Micro-electrochemical investigation on the role of Mg in sacrificial corrosion protection of 55mass%Al-Zn-Mg coated steel. <i>Corrosion Science</i> , 2017 , 129, 126-135	6.8	11
70	In situ monitoring of crevice corrosion morphology of Type 316L stainless steel and repassivation behavior induced by sulfate ions. <i>Corrosion Science</i> , 2017 , 127, 131-140	6.8	19
69	Pitting Corrosion Resistance of Martensite of AISI 1045 Steel and the Beneficial Role of Interstitial Carbon. <i>Journal of the Electrochemical Society</i> , 2017 , 164, C962-C972	3.9	24
68	Pitting at the Grain Boundary of Type 304 Stainless Steel in NaCl Solution: The Role of Oxide Inclusions and Segregation. <i>Journal of the Electrochemical Society</i> , 2017 , 164, C991-C1002	3.9	8
67	Micro-Electrochemical Properties of CeS Inclusions in Stainless Steel and Inhibiting Effects of Ce ³⁺ Ions on Pitting. <i>Journal of the Electrochemical Society</i> , 2017 , 164, C901-C910	3.9	7
66	Micro-Electrochemical In Situ Observation of Pit Initiation at Precipitates in AA5182 Al-Mg Alloy in 0.1 M NaCl. <i>ECS Transactions</i> , 2017 , 80, 553-564	1	3
65	Effect of Applied Stress on Pitting Corrosion Behavior of Type 304 Stainless Steel in Chloride Environment. <i>ECS Transactions</i> , 2017 , 80, 1407-1413	1	3
64	Challenges and Prospects in Corrosion Science and Technology. <i>Materia Japan</i> , 2017 , 56, 175-179	0.1	4
63	Simultaneous visualization of pH and Cl ⁻ distributions inside the crevice of stainless steel. <i>Corrosion Science</i> , 2016 , 106, 298-302	6.8	30
62	Effect of atmospheric aging on dissolution of MnS inclusions and pitting initiation process in type 304 stainless steel. <i>Corrosion Science</i> , 2016 , 106, 25-34	6.8	29
61	Effect of Phosphate and Chromate Pigments on Sacrificial Corrosion Protection by Al-Zn Coating and Delamination Mechanism of Pre-painted Galvalume Steel. <i>ISIJ International</i> , 2016 , 56, 2267-2275	1.7	3
60	A Microelectrochemical Approach to Understanding Hydrogen Absorption into Steel during Pitting Corrosion. <i>ISIJ International</i> , 2016 , 56, 495-497	1.7	5
59	Microelectrochemical Aspects of Interstitial Carbon in Type 304 Stainless Steel: Improving Pitting Resistance at MnS Inclusion. <i>Journal of the Electrochemical Society</i> , 2015 , 162, C270-C278	3.9	29

58	Corrosion Resistance of a Free-Cutting Soft-Magnetic Stainless Steel in Pure Water. <i>Materials Transactions</i> , 2015 , 56, 1814-1820	1.3	2
57	Microelectrochemistry of Sulfide Inclusions and Pit Initiation Mechanisms of Stainless Steels. <i>Hyomen Kagaku</i> , 2015 , 36, 18-23		4
56	Electrochemical Roles of Anti-corrosive Pigments in Sacrificial Corrosion Protection of Painted Galvanized Steel and their Relation to Organic Coating Delamination. <i>ISIJ International</i> , 2015 , 55, 2443-2449	1.7	1
55	Effects of Corrosion and Cracking of Sulfide Inclusions on Pit Initiation in Stainless Steel. <i>Journal of the Electrochemical Society</i> , 2014 , 161, C494-C500	3.9	21
54	Dependency of the formation of Au-stabilized nanoporous copper on the dealloying temperature. <i>Microporous and Mesoporous Materials</i> , 2014 , 186, 181-186	5.3	9
53	Microelectrochemical Study on the Surface Oxidation of Pt: The Effects of Crystal Orientation and Grain Boundary. <i>Materials Transactions</i> , 2014 , 55, 735-738	1.3	1
52	Electrolytic Grinding Reducing for Stainless Steel. <i>Materia Japan</i> , 2014 , 53, 23-25	0.1	
51	Direct Observation of Pit Initiation Process on Type 304 Stainless Steel. <i>Materials Transactions</i> , 2014 , 55, 857-860	1.3	29
50	Uniform evolution of nanoporosity on amorphous Ti-Cu alloys. <i>Journal of Nanoscience and Nanotechnology</i> , 2014 , 14, 7879-83	1.3	2
49	Fabrication of nanoporous copper by dealloying of amorphous TiCuAg alloys. <i>Journal of Alloys and Compounds</i> , 2014 , 586, S134-S138	5.7	33
48	Nanoporous palladium fabricated from an amorphous Pd _{42.5} Cu ₃₀ Ni _{7.5} P ₂₀ precursor and its ethanol electro-oxidation performance. <i>Electrochimica Acta</i> , 2013 , 108, 512-519	6.7	31
47	Dealloying behavior of amorphous binary TiCu alloys in hydrofluoric acid solutions at various temperatures. <i>Journal of Alloys and Compounds</i> , 2013 , 581, 567-572	5.7	17
46	Effects of the initial microstructure of TiCu alloys on final nanoporous copper via dealloying. <i>Journal of Alloys and Compounds</i> , 2013 , 557, 166-171	5.7	28
45	Nickel-stabilized nanoporous copper fabricated from ternary TiCuNi amorphous alloys. <i>Materials Letters</i> , 2013 , 94, 128-131	3.3	22
44	Elaboration of nanoporous copper by modifying surface diffusivity by the minor addition of gold. <i>Microporous and Mesoporous Materials</i> , 2013 , 165, 257-264	5.3	28
43	The Role of Oxide Films on TiS and Ti ₄ C ₂ S ₂ Inclusions in the Pitting Corrosion Resistance of Stainless Steels. <i>Journal of the Electrochemical Society</i> , 2013 , 160, C262-C269	3.9	22
42	Nanoporous Copper Dealloyed from a Nanocrystallized TiCu Alloy. <i>Materials Science Forum</i> , 2013 , 750, 72-75	0.4	2
41	Pit Initiation Mechanism at MnS Inclusions in Stainless Steel: Synergistic Effect of Elemental Sulfur and Chloride Ions. <i>Journal of the Electrochemical Society</i> , 2013 , 160, C511-C520	3.9	75

40	Dealloying Behaviours of an Equiatomic TiCu Alloy. <i>Materials Transactions</i> , 2013 , 54, 1120-1125	1.3	6
39	Effects of Deposited Salts on Corrosion Behavior for 1100 Aluminum Alloy during Constant Dew Point Test. <i>Zairyo To Kankyo/ Corrosion Engineering</i> , 2013 , 62, 56-60	0.5	0
38	Fabrication of nanoporous copper by dealloying amorphous binary TiCu alloys in hydrofluoric acid solutions. <i>Intermetallics</i> , 2012 , 29, 14-20	3.5	54
37	Bimodal nanoporous nickel prepared by dealloying Ni ₃₈ Mn ₆₂ alloys. <i>Intermetallics</i> , 2012 , 31, 157-164	3.5	30
36	Effects of environmental factors on atmospheric corrosion of aluminium and its alloys under constant dew point conditions. <i>Corrosion Science</i> , 2012 , 57, 22-29	6.8	38
35	Improvement of Pitting Corrosion Resistance of Type 316L Stainless Steel by Potentiostatic Removal of Surface MnS Inclusions. <i>International Journal of Corrosion</i> , 2012 , 2012, 1-6	2	23
34	Effects of Environmental Parameters on Marine Corrosion of Aluminium Alloys. <i>Advanced Materials Research</i> , 2012 , 569, 95-98	0.5	1
33	A Microelectrochemical System for In Situ High-Resolution Optical Microscopy: Morphological Characteristics of Pitting at MnS Inclusion in Stainless Steel. <i>Journal of the Electrochemical Society</i> , 2012 , 159, C341-C350	3.9	71
32	Visualization of pH and pCl Distributions: Initiation and Propagation Criteria for Crevice Corrosion of Stainless Steel. <i>Journal of the Electrochemical Society</i> , 2012 , 159, C289-C297	3.9	30
31	Fabrication of Ultrafine Nanoporous Copper by the Minor Addition of Gold. <i>Materials Transactions</i> , 2012 , 53, 1765-1769	1.3	17
30	Applicability of constant dew point corrosion tests for evaluating atmospheric corrosion of aluminium alloys. <i>Corrosion Science</i> , 2011 , 53, 2006-2014	6.8	30
29	Weathering of Light Metals in the Atmosphere. <i>Applied Mechanics and Materials</i> , 2011 , 148-149, 380-383	0.3	0
28	Cut Edge Corrosion Inhibition by Chromate in Primer of Prepainted 55% AlZn Alloy Coated Steel. <i>Journal of the Electrochemical Society</i> , 2011 , 158, C42	3.9	3
27	Local Dissolution of MnS Inclusion and Microstructural Distribution of Absorbed Hydrogen in Carbon Steel. <i>Journal of the Electrochemical Society</i> , 2011 , 158, C302	3.9	14
26	Microelectrochemical Investigation of Hydrogen Absorption and Dissolution Behavior of MnS Inclusions in Carbon Steel. <i>ECS Transactions</i> , 2010 , 33, 9-20	1	4
25	Hydrogen Gas Sensor Using Pt- and Pd-Added Anodic TiO ₂ Nanotube Films. <i>Journal of the Electrochemical Society</i> , 2010 , 157, J221	3.9	53
24	Electrochemical Properties of Titanium in PEFC Bipolar Plate Environments. <i>Materials Transactions</i> , 2010 , 51, 939-947	1.3	10
23	Role of Corrosion Products in the Suppression of Atmospheric Corrosion of Aluminum and its Alloys. <i>ECS Transactions</i> , 2009 , 25, 23-33	1	6

22	Microelectrochemical Investigation of Anodic Polarization Behavior of CrS Inclusions in Stainless Steels. <i>Journal of the Electrochemical Society</i> , 2009 , 156, C395	3.9	33
21	Corrosion Propagation Behavior of Magnesium Alloys under Atmospheric Conditions. <i>ECS Transactions</i> , 2009 , 16, 71-84	1	4
20	Microelectrochemistry on CrS and MnS Inclusions and Its Relation with Pitting Potentials of Stainless Steels. <i>ECS Transactions</i> , 2009 , 16, 269-279	1	2
19	Scanning Kelvin Probe Analysis of Cut Edge Corrosion on Prepainted Galvanized Steel with Chromate-Containing Epoxy Primer. <i>ECS Transactions</i> , 2009 , 25, 59-70	1	2
18	Microelectrochemical Investigation on Pit Initiation at Sulfide and Oxide Inclusions in Type 304 Stainless Steel. <i>Journal of the Electrochemical Society</i> , 2009 , 156, C55	3.9	47
17	Effects of Third Element Addition on Atmospheric Corrosion Resistance of Zinc-Aluminum Die-Cast Alloys. <i>Nippon Kinzoku Gakkaishi/Journal of the Japan Institute of Metals</i> , 2009 , 73, 533-541	0.4	8
16	A Combinatorial Screening Method for Corrosion Research Using Ion-Beam- Deposited Thin-Film Alloys and Microelectrochemical Measurements. <i>Materials Transactions</i> , 2009 , 50, 1894-1897	1.3	4
15	In Situ Ellipsometric Analysis of Growth Processes of Anodic TiO ₂ Nanotube Films. <i>Journal of the Electrochemical Society</i> , 2008 , 155, C154	3.9	13
14	Effect of Alloying Elements on Atmospheric Corrosion Behavior of Zinc Die-Casting Alloys. <i>Nippon Kinzoku Gakkaishi/Journal of the Japan Institute of Metals</i> , 2008 , 72, 337-346	0.4	8
13	Electrochemical Properties of Carbon Steel and Low Alloy Steels in Simulated Geological Disposal Environment. <i>Zairyo To Kankyo/Corrosion Engineering</i> , 2008 , 57, 37-45	0.5	4
12	Microelectrochemical Measurements of Dissolution of MnS Inclusions and Morphological Observation of Metastable and Stable Pitting on Stainless Steel. <i>Journal of the Electrochemical Society</i> , 2007 , 154, C439	3.9	87
11	Improvement of Discoloration Resistance of Vacuum Annealed Commercially Pure Titanium Sheets in Atmospheric Environments. <i>Tetsu-To-Hagane/Journal of the Iron and Steel Institute of Japan</i> , 2004 , 90, 278-285	0.5	10
10	Environmental and Metallurgical Factors Affecting Discoloration of Titanium Sheets in Atmospheric Environments. <i>Tetsu-To-Hagane/Journal of the Iron and Steel Institute of Japan</i> , 2003 , 89, 833-840	0.5	11
9	Recent Advances in Stainless Steels Used for Architectural Applications and Frontier of Atmospheric Corrosion Research. <i>Zairyo To Kankyo/Corrosion Engineering</i> , 2001 , 50, 203-209	0.5	4
8	Characterization of Atmospheric Corrosion Behavior on Stainless Steels and Modeling of Outdoor Environments.. <i>Materia Japan</i> , 1999 , 38, 791-797	0.1	8
7	Modeling of Atmospheric Corrosion Environments and Its Application to Constant Dew-Point Corrosion Test. <i>Zairyo To Kankyo/Corrosion Engineering</i> , 1998 , 47, 519-527	0.5	30
6	On Aesthetic Degradation of Stainless Steel. <i>Materials Transactions, JIM</i> , 1996 , 37, 367-372		1
5	Kinetics of Pit Growth for Stainless Steels under the Water Droplet Containing Chloride Ion. <i>Zairyo To Kankyo/Corrosion Engineering</i> , 1995 , 44, 505-512	0.5	4

4	Pitting Corrosion Behavior of Stainless Steels in a Marine Environment and Its Estimation Method. <i>Zairyo To Kankyo/Corrosion Engineering</i> , 1993 , 42, 714-720	0.5	9
3	Rust Staining Resistance of Stainless Steels in a Marine Environment and Its Estimation Method. <i>Zairyo To Kankyo/Corrosion Engineering</i> , 1993 , 42, 211-218	0.5	3
2	In situ Analysis of Passive Films on Alloy 600 by Modulated UV-visible Reflection Spectroscopy. <i>Corrosion Engineering</i> , 1988 , 37, 664-671		1
1	First-Principles Investigation on Work Function of Martensitic Carbon Steels: Effect of Interstitial Carbon on Anodic Dissolution Resistance. <i>Journal of the Electrochemical Society</i> ,	3.9	1