

Jinshan Pan

List of Publications by Year in descending order

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115
papers

4,011
citations

109137

35
h-index

149479

56
g-index

117
all docs

117
docs citations

117
times ranked

3757
citing authors

#	ARTICLE	IF	CITATIONS
1	The thickness of native oxides on aluminum alloys and single crystals. <i>Applied Surface Science</i> , 2015, 349, 826-832.	3.1	174
2	Depletion effects at phase boundaries in 2205 duplex stainless steel characterized with SKPFM and TEM/EDS. <i>Corrosion Science</i> , 2009, 51, 1850-1860.	3.0	170
3	Direct Electrochemical Synthesis of Reduced Graphene Oxide (rGO)/Copper Composite Films and Their Electrical/Electroactive Properties. <i>ACS Applied Materials & Interfaces</i> , 2014, 6, 7444-7455.	4.0	127
4	Study of nobility of chromium nitrides in isothermally aged duplex stainless steels by using SKPFM and SEM/EDS. <i>Corrosion Science</i> , 2010, 52, 179-186.	3.0	120
5	Influence of metal carbides on dissolution behavior of biomedical CoCrMo alloy: SEM, TEM and AFM studies. <i>Electrochimica Acta</i> , 2011, 56, 9413-9419.	2.6	112
6	Layered double hydroxide (LDH) for multi-functionalized corrosion protection of metals: A review. <i>Journal of Materials Science and Technology</i> , 2022, 102, 232-263.	5.6	112
7	Silane- ϵ -parylene coating for improving corrosion resistance of stainless steel 316L implant material. <i>Corrosion Science</i> , 2011, 53, 296-301.	3.0	111
8	Localized corrosion behaviour of reinforcement steel in simulated concrete pore solution. <i>Corrosion Science</i> , 2009, 51, 2130-2138.	3.0	102
9	Electrochemical and AFM studies of mussel adhesive protein (Mefp-1) as corrosion inhibitor for carbon steel. <i>Electrochimica Acta</i> , 2011, 56, 1636-1645.	2.6	87
10	Determination of instantaneous corrosion rates and runoff rates of copper from naturally patinated copper during continuous rain events. <i>Corrosion Science</i> , 2002, 44, 2131-2151.	3.0	86
11	Influence of polyaniline and ceria nanoparticle additives on corrosion protection of a UV-cure coating on carbon steel. <i>Corrosion Science</i> , 2014, 84, 189-197.	3.0	84
12	A FEM model for investigation of micro-galvanic corrosion of Al alloys and effects of deposition of corrosion products. <i>Electrochimica Acta</i> , 2016, 192, 310-318.	2.6	76
13	Electrochemical behavior and anticorrosion properties of modified polyaniline dispersed in polyvinylacetate coating on carbon steel. <i>Electrochimica Acta</i> , 2008, 53, 4239-4247.	2.6	75
14	Scanning Kelvin probe force microscopy study of chromium nitrides in 2507 super duplex stainless steel- ϵ Implications and limitations. <i>Electrochimica Acta</i> , 2011, 56, 1792-1798.	2.6	75
15	On the Volta potential measured by SKPFM ϵ fundamental and practical aspects with relevance to corrosion science. <i>Corrosion Engineering Science and Technology</i> , 2019, 54, 185-198.	0.7	73
16	Corrosion protection by hydrophobic silica particle-polydimethylsiloxane composite coatings. <i>Corrosion Science</i> , 2015, 99, 89-97.	3.0	69
17	The effect of superhydrophobic wetting state on corrosion protection ϵ The AKD example. <i>Journal of Colloid and Interface Science</i> , 2013, 412, 56-64.	5.0	68
18	First-Principle Calculation of Volta Potential of Intermetallic Particles in Aluminum Alloys and Practical Implications. <i>Journal of the Electrochemical Society</i> , 2017, 164, C465-C473.	1.3	61

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19	Real-Time and Online Lubricating Oil Condition Monitoring Enabled by Triboelectric Nanogenerator. ACS Nano, 2021, 15, 11869-11879.	7.3	56
20	In-situ AFM and EIS study of a solventborne alkyd coating with nanoclay for corrosion protection of carbon steel. Progress in Organic Coatings, 2015, 87, 179-188.	1.9	54
21	Correlative Microstructure Analysis and In Situ Corrosion Study of AISI 420 Martensitic Stainless Steel for Plastic Molding Applications. Journal of the Electrochemical Society, 2017, 164, C85-C93.	1.3	52
22	Characterization of Phases in Duplex Stainless Steel by Magnetic Force Microscopy/Scanning Kelvin Probe Force Microscopy. Electrochemical and Solid-State Letters, 2008, 11, C41.	2.2	51
23	Study of corrosion behavior of a 22% Cr duplex stainless steel: Influence of nano-sized chromium nitrides and exposure temperature. Electrochimica Acta, 2013, 113, 280-289.	2.6	50
24	Corrosion Inhibition of Aluminum Alloy AA6063-T5 by Vanadates: Microstructure Characterization and Corrosion Analysis. Journal of the Electrochemical Society, 2018, 165, C116-C126.	1.3	49
25	In Situ and Operando AFM and EIS Studies of Anodization of Al 6060: Influence of Intermetallic Particles. Journal of the Electrochemical Society, 2016, 163, C609-C618.	1.3	48
26	Numerical Simulation of Micro-Galvanic Corrosion in Al Alloys: Effect of Geometric Factors. Journal of the Electrochemical Society, 2017, 164, C75-C84.	1.3	48
27	Toward Homogeneous Nanostructured Polyaniline/Resin Blends. ACS Applied Materials & Interfaces, 2011, 3, 1681-1691.	4.0	45
28	Hydrogen embrittlement of super duplex stainless steel “ Towards understanding the effects of microstructure and strain. International Journal of Hydrogen Energy, 2018, 43, 12543-12555.	3.8	44
29	Active corrosion protection by conductive composites of polyaniline in a UV-cured polyester acrylate coating. Progress in Organic Coatings, 2016, 90, 154-162.	1.9	43
30	Corrosion inhibition of aluminium alloy AA6063-T5 by vanadates: Local surface chemical events elucidated by confocal Raman micro-spectroscopy. Corrosion Science, 2019, 148, 237-250.	3.0	43
31	Tafel slopes used in monitoring of copper corrosion in a bentonite/groundwater environment. Corrosion Science, 2005, 47, 3267-3279.	3.0	42
32	Study of PANI-MeSA conducting polymer dispersed in UV-curing polyester acrylate on galvanized steel as corrosion protection coating. Progress in Organic Coatings, 2011, 70, 108-115.	1.9	41
33	Corrosion protective properties of cellulose nanocrystals reinforced waterborne acrylate-based composite coating. Corrosion Science, 2019, 155, 186-194.	3.0	40
34	Influence of Grain Boundaries on Dissolution Behavior of a Biomedical CoCrMo Alloy: In-Situ Electrochemical-Optical, AFM and SEM/TEM Studies. Journal of the Electrochemical Society, 2012, 159, C422-C427.	1.3	39
35	Local surface mechanical properties of PDMS-silica nanocomposite probed with Intermodulation AFM. Composites Science and Technology, 2017, 150, 111-119.	3.8	37
36	Redefining passivity breakdown of super duplex stainless steel by electrochemical operando synchrotron near surface X-ray analyses. Npj Materials Degradation, 2019, 3, .	2.6	36

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37	Nanoscale Electrical and Mechanical Characteristics of Conductive Polyaniline Network in Polymer Composite Films. ACS Applied Materials & Interfaces, 2014, 6, 19168-19175.	4.0	35
38	Electrochemical impedance spectroscopy of pure copper exposed in bentonite under oxic conditions. Electrochimica Acta, 2011, 56, 7862-7870.	2.6	34
39	Thickness and composition of native oxides and near-surface regions of Ni superalloys. Journal of Alloys and Compounds, 2022, 895, 162657.	2.8	33
40	Multifunctional commercially pure titanium for the improvement of bone integration: Multiscale topography, wettability, corrosion resistance and biological functionalization. Materials Science and Engineering C, 2016, 60, 384-393.	3.8	32
41	In-situ synchrotron GIXRD study of passive film evolution on duplex stainless steel in corrosive environment. Corrosion Science, 2018, 141, 18-21.	3.0	32
42	An electrochemical impedance spectroscopy study of copper in a bentonite/saline groundwater environment. Electrochimica Acta, 2008, 53, 7556-7564.	2.6	31
43	In situ confocal Raman micro-spectroscopy and electrochemical studies of mussel adhesive protein and ceria composite film on carbon steel in salt solutions. Electrochimica Acta, 2013, 107, 276-291.	2.6	31
44	Anodisation of aluminium alloy AA7075 – Influence of intermetallic particles on anodic oxide growth. Corrosion Science, 2020, 164, 108319.	3.0	31
45	Nano-scale mechanical and wear properties of a waterborne hydroxyacrylic-melamine anti-corrosion coating. Applied Surface Science, 2018, 457, 548-558.	3.1	29
46	Engineering of bone fixation metal implants biointerface – Application of parylene C as versatile protective coating. Materials Science and Engineering C, 2012, 32, 2431-2435.	3.8	28
47	In situ investigations of Fe ³⁺ induced complexation of adsorbed Mefp-1 protein film on iron substrate. Journal of Colloid and Interface Science, 2013, 404, 62-71.	5.0	28
48	In-Situ AFM and EIS Study of Waterborne Acrylic Latex Coatings for Corrosion Protection of Carbon Steel. Journal of the Electrochemical Society, 2015, 162, C55-C63.	1.3	28
49	Atmospheric corrosion of Cu, Zn, and Cu-Zn alloys protected by self-assembled monolayers of alkanethiols. Surface Science, 2016, 648, 170-176.	0.8	28
50	Passive film characterisation of duplex stainless steel using scanning Kelvin probe force microscopy in combination with electrochemical measurements. Npj Materials Degradation, 2019, 3, .	2.6	28
51	Volta Potential Evolution of Intermetallics in Aluminum Alloy Microstructure Under Thin Aqueous Adlayers: A combined DFT and Experimental Study. Topics in Catalysis, 2018, 61, 1169-1182.	1.3	26
52	In Situ AFM and Electrochemical Study of a Waterborne Acrylic Composite Coating with CeO ₂ Nanoparticles for Corrosion Protection of Carbon Steel. Journal of the Electrochemical Society, 2015, 162, C610-C618.	1.3	25
53	Micro-galvanic corrosion of Cu/Ru couple in potassium periodate (KIO ₄) solution. Corrosion Science, 2018, 137, 184-193.	3.0	25
54	A DFT-Study of Cl Ingress into α -Al ₂ O ₃ (0001) and Al(111) and Its Possible Influence on Localized Corrosion of Al. Journal of the Electrochemical Society, 2019, 166, C3124-C3130.	1.3	25

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55	Nickel release from nickel particles in artificial sweat. <i>Contact Dermatitis</i> , 2007, 56, 325-330.	0.8	24
56	Numerical Simulation of Micro-Galvanic Corrosion of Al Alloys: Effect of Chemical Factors. <i>Journal of the Electrochemical Society</i> , 2017, 164, C768-C778.	1.3	24
57	Thin Composite Films of Mussel Adhesive Proteins and Ceria Nanoparticles on Carbon Steel for Corrosion Protection. <i>Journal of the Electrochemical Society</i> , 2012, 159, C364-C371.	1.3	23
58	Micro-Galvanic Corrosion Effects on Patterned Copper-Zinc Samples during Exposure in Humidified Air Containing Formic Acid. <i>Journal of the Electrochemical Society</i> , 2013, 160, C423-C431.	1.3	23
59	Localized Corrosion of Binary Mg-Ca Alloy in 0.9wt% Sodium Chloride Solution. <i>Acta Metallurgica Sinica (English Letters)</i> , 2016, 29, 46-57.	1.5	23
60	Real-Time Corrosion Monitoring of Aluminum Alloy Using Scanning Kelvin Probe Force Microscopy. <i>Journal of the Electrochemical Society</i> , 2020, 167, 081502.	1.3	23
61	Microstructure influence on corrosion behavior of a Fe-Cr-V-N tool alloy studied by SEM/EDS, scanning Kelvin force microscopy and electrochemical measurement. <i>Corrosion Science</i> , 2013, 66, 153-159.	3.0	22
62	EIS and in situ AFM study of barrier property and stability of waterborne and solventborne clear coats. <i>Progress in Organic Coatings</i> , 2014, 77, 600-608.	1.9	22
63	In Situ AFM Study of Localized Corrosion Processes of Tempered AISI 420 Martensitic Stainless Steel: Effect of Secondary Hardening. <i>Journal of the Electrochemical Society</i> , 2017, 164, C810-C818.	1.3	22
64	Mussel-Inspired Graphene Film with Enhanced Durability as a Macroscale Solid Lubricant. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 31386-31392.	4.0	22
65	Characterization of Native Oxide and Passive Film on Austenite/Ferrite Phases of Duplex Stainless Steel Using Synchrotron HAXPEEM. <i>Journal of the Electrochemical Society</i> , 2019, 166, C3336-C3340.	1.3	22
66	Investigation and application of mussel adhesive protein nanocomposite film-forming inhibitor for reinforced concrete engineering. <i>Corrosion Science</i> , 2019, 153, 333-340.	3.0	22
67	Corrosion- and wear-resistant composite film of graphene and mussel adhesive proteins on carbon steel. <i>Corrosion Science</i> , 2020, 164, 108351.	3.0	22
68	Lateral variation of the native passive film on super duplex stainless steel resolved by synchrotron hard X-ray photoelectron emission microscopy. <i>Corrosion Science</i> , 2020, 174, 108841.	3.0	22
69	UV-curable acrylate-based nanocomposites: effect of polyaniline additives on the curing performance. <i>Polymers for Advanced Technologies</i> , 2013, 24, 668-678.	1.6	21
70	Long-term corrosion protection by a thin nano-composite coating. <i>Applied Surface Science</i> , 2015, 357, 2333-2342.	3.1	21
71	Numerical Simulation of Micro-Galvanic Corrosion in Al Alloys: Steric Hindrance Effect of Corrosion Product. <i>Journal of the Electrochemical Society</i> , 2017, 164, C1035-C1043.	1.3	21
72	Passivation characteristics of ultra-thin 316L foil in NaCl solutions. <i>Journal of Materials Science and Technology</i> , 2022, 127, 192-205.	5.6	21

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73	Corrosion Protection and Self-Healing of a Nanocomposite Film of Mussel Adhesive Protein and CeO ₂ Nanoparticles on Carbon Steel. <i>Journal of the Electrochemical Society</i> , 2016, 163, C545-C552.	1.3	20
74	Integration of electrochemical and synchrotron-based X-ray techniques for in-situ investigation of aluminum anodization. <i>Electrochimica Acta</i> , 2017, 241, 299-308.	2.6	19
75	Electrochemical, atomic force microscopy and infrared reflection absorption spectroscopy studies of pre-formed mussel adhesive protein films on carbon steel for corrosion protection. <i>Thin Solid Films</i> , 2012, 520, 7136-7143.	0.8	18
76	Controllable degradation of medical magnesium by electrodeposited composite films of mussel adhesive protein (Mefp-1) and chitosan. <i>Journal of Colloid and Interface Science</i> , 2016, 478, 246-255.	5.0	18
77	Towards the mechanism of electrochemical activity and self-healing of 1 wt% PTSA doped polyaniline in alkyd composite polymer coating: combined AFM-based studies. <i>RSC Advances</i> , 2016, 6, 19111-19127.	1.7	18
78	Probing the vertical profiles of potential in a thin layer of solution closed to electrode surface during localized corrosion of stainless steel. <i>Corrosion Science</i> , 2012, 61, 242-245.	3.0	17
79	Numerical simulation of micro-galvanic corrosion of Al alloys: Effect of density of Al(OH) ₃ precipitate. <i>Electrochimica Acta</i> , 2019, 324, 134847.	2.6	17
80	Influence of Surface Strain on Passive Film Formation of Duplex Stainless Steel and Its Degradation in Corrosive Environment. <i>Journal of the Electrochemical Society</i> , 2019, 166, C3071-C3080.	1.3	17
81	Octadecanethiol as Corrosion Inhibitor for Zinc and Patterned Zinc-Copper in Humidified Air with Formic Acid. <i>Journal of the Electrochemical Society</i> , 2014, 161, C330-C338.	1.3	16
82	Combining lithography and capillary techniques for local electrochemical property measurements. <i>Electrochemistry Communications</i> , 2018, 87, 53-57.	2.3	16
83	Insight into the Fabrication of ZnAl Layered Double Hydroxides Intercalated with Organic Anions and Their Corrosion Protection of Steel Reinforced Concrete. <i>Journal of the Electrochemical Society</i> , 2019, 166, C617-C623.	1.3	16
84	Direct Measurement of Colloidal Interactions between Polyaniline Surfaces in a UV-Curable Coating Formulation: The Effect of Surface Hydrophilicity/Hydrophobicity and Resin Composition. <i>Langmuir</i> , 2014, 30, 1045-1054.	1.6	15
85	Temperature-dependent surface nanomechanical properties of a thermoplastic nanocomposite. <i>Journal of Colloid and Interface Science</i> , 2017, 494, 204-214.	5.0	15
86	Corrosion inhibition of pre-formed mussel adhesive protein (Mefp-1) film to magnesium alloy. <i>Corrosion Science</i> , 2020, 164, 108309.	3.0	15
87	Corrosion-induced microstructure degradation of copper in sulfide-containing simulated anoxic groundwater studied by synchrotron high-energy X-ray diffraction and ab-initio density functional theory calculation. <i>Corrosion Science</i> , 2021, 184, 109390.	3.0	15
88	Tribological Properties Mapping: Local Variation in Friction Coefficient and Adhesion. <i>Tribology Letters</i> , 2013, 50, 387-395.	1.2	14
89	Metastable precursor structures in hydrogen-infused super duplex stainless steel microstructure – An operando diffraction experiment. <i>Corrosion Science</i> , 2020, 176, 109021.	3.0	14
90	Towards understanding micro-galvanic activities in localised corrosion of AA2099 aluminium alloy. <i>Electrochimica Acta</i> , 2021, 392, 139005.	2.6	13

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91	Studying the Passivity and Breakdown of Duplex Stainless Steels at Micrometer and Nanometer Scales “ The Influence of Microstructure. <i>Frontiers in Materials</i> , 2020, 7, .	1.2	12
92	Corrosion Investigations of Ruthenium in Potassium Periodate Solutions Relevant for Chemical Mechanical Polishing. <i>Journal of Electronic Materials</i> , 2016, 45, 4067-4075.	1.0	11
93	Probing electrochemical mechanism of polyaniline and CeO ₂ nanoparticles in alkyd coating with in-situ electrochemical-AFM and IRAS. <i>Progress in Organic Coatings</i> , 2019, 132, 399-408.	1.9	11
94	Co-Adsorption of H ₂ O, OH, and Cl on Aluminum and Intermetallic Surfaces and Its Effects on the Work Function Studied by DFT Calculations. <i>Molecules</i> , 2019, 24, 4284.	1.7	11
95	Comparative study of CNC and CNF as additives in waterborne acrylate-based anti-corrosion coatings. <i>Journal of Dispersion Science and Technology</i> , 2020, 41, 2037-2047.	1.3	11
96	In-Situ Time-Lapse SKPFM Investigation of Sensitized AA5083 Aluminum Alloy to Understand Localized Corrosion. <i>Journal of the Electrochemical Society</i> , 2020, 167, 141502.	1.3	11
97	Experimental and modelling study of the effect of tempering on the susceptibility to environment-assisted cracking of AISI 420 martensitic stainless steel. <i>Corrosion Science</i> , 2019, 148, 83-93.	3.0	10
98	Operando time- and space-resolved high-energy X-ray diffraction measurement to understand hydrogen-microstructure interactions in duplex stainless steel. <i>Corrosion Science</i> , 2020, 175, 108899.	3.0	10
99	Density Functional Theory Study of Influence of Oxide Thickness and Surface Alloying on Cl Migration within α -Al ₂ O ₃ . <i>Journal of the Electrochemical Society</i> , 2021, 168, 081508.	1.3	10
100	Microstructure and transformation temperatures in rapid solidified Ni-Ti alloys. Part II: The effect of copper addition. <i>Journal of Alloys and Compounds</i> , 2014, 589, 633-642.	2.8	9
101	Recent Development of Corrosion Protection Strategy Based on Mussel Adhesive Protein. <i>Frontiers in Materials</i> , 2019, 6, .	1.2	9
102	Time-resolved grazing-incidence X-ray diffraction measurement to understand the effect of hydrogen on surface strain development in super duplex stainless steel. <i>Scripta Materialia</i> , 2020, 187, 63-67.	2.6	8
103	Minuscule device for hydrogen generation/electrical energy collection system on aluminum alloy surface. <i>International Journal of Hydrogen Energy</i> , 2011, 36, 2855-2859.	3.8	7
104	Radial Spreading of Localized Corrosion-Induced Selective Leaching on α -Brass in Dilute NaCl Solution. <i>Corrosion</i> , 2013, 69, 468-476.	0.5	7
105	Role of microstructure on corrosion initiation of an experimental tool alloy: A Quantitative Nanomechanical Property Mapping study. <i>Corrosion Science</i> , 2014, 89, 236-241.	3.0	7
106	Corrosion Inhibition of Two Brass Alloys by Octadecanethiol in Humidified Air with Formic Acid. <i>Corrosion</i> , 2015, 71, 908-917.	0.5	6
107	Tunable Adsorption and Film Formation of Mussel Adhesive Protein by Potential Control. <i>Langmuir</i> , 2017, 33, 8749-8756.	1.6	6
108	Heating-Induced Enhancement of Corrosion Protection of Carbon Steel by a Nanocomposite Film Containing Mussel Adhesive Protein. <i>Journal of the Electrochemical Society</i> , 2017, 164, C188-C193.	1.3	6

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109	Hydrogen-Induced Micro-Strain Evolution in Super Duplex Stainless Steel—Correlative High-Energy X-Ray Diffraction, Electron Backscattered Diffraction, and Digital Image Correlation. <i>Frontiers in Materials</i> , 2022, 8, .	1.2	6
110	Temperature effect on mechanical strength and frictional properties of polytetrafluoroethylene—based core—shell nanocomposites. <i>Journal of Applied Polymer Science</i> , 2021, 138, 49929.	1.3	5
111	Investigation of Influence of Small Particles in MP35N on the Corrosion Resistance in Synthetic Biological Environment. <i>Journal of the Electrochemical Society</i> , 2009, 156, C341.	1.3	3
112	Experimental and Simulation Investigations of Copper Reduction Mechanism with and without Addition of SPS. <i>Journal of the Electrochemical Society</i> , 2018, 165, D604-D611.	1.3	3
113	Interactions in Composite Film Formation of Mefp-1/graphene on Carbon Steel. <i>Coatings</i> , 2021, 11, 1161.	1.2	2
114	Reply to Comment on “Corrosion-induced microstructure degradation of copper in sulfide-containing simulated anoxic groundwater studied by synchrotron high-energy X-ray diffraction and ab-initio density functional theory calculation”. <i>Corrosion Science</i> , 2022, 199, 110183.	3.0	2
115	Relevance of implicit and explicit solvent in density-functional theory study of adsorption at electrochemical NaCl/Al interface. <i>Materials Today Communications</i> , 2022, 31, 103425.	0.9	1