Frank Y Cheng

List of Publications by Year
in descending order

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265 papers	13,002 citations	13865 67 h-index	38392 95 g-index
270 all docs	270 docs citations	270 times ranked	5502 citing authors

#	Article	IF	Citations
1	Effects of hydrogen-charging on the susceptibility of X100 pipeline steel to hydrogen-induced cracking. International Journal of Hydrogen Energy, 2009, 34, 9879-9884.	7.1	261
2	On the fundamentals of electrochemical corrosion of X65 steel in CO2-containing formation water in the presence of acetic acid in petroleum production. Corrosion Science, 2009, 51, 87-94.	6.6	213
3	Passivation behavior and surface chemistry of 2507 super duplex stainless steel in artificial seawater: Influence of dissolved oxygen and pH. Corrosion Science, 2019, 150, 218-234.	6.6	212
4	Characterization of inclusions of X80 pipeline steel and its correlation with hydrogen-induced cracking. Corrosion Science, 2011, 53, 1201-1208.	6.6	197
5	Stress corrosion cracking behavior of X70 pipe steel in an acidic soil environment. Corrosion Science, 2008, 50, 2251-2257.	6.6	178
6	Effect of non-metallic inclusions on hydrogen-induced cracking of API5L X100 steel. International Journal of Hydrogen Energy, 2010, 35, 8014-8021.	7.1	169
7	Analysis of electrochemical hydrogen permeation through X-65 pipeline steel and its implications on pipeline stress corrosion cracking. International Journal of Hydrogen Energy, 2007, 32, 1269-1276.	7.1	163
8	Electronic structure and pitting susceptibility of passive film on carbon steel. Electrochimica Acta, 1999, 44, 2947-2957.	5.2	158
9	Mechanistic aspect of near-neutral pH stress corrosion cracking of pipelines under cathodic polarization. Corrosion Science, 2012, 55, 54-60.	6.6	158
10	Recent advances in electrocatalysts for electro-oxidation of ammonia. Journal of Materials Chemistry A, 2013, 1, 3216-3238.	10.3	155
11	Effect of inclusions on initiation of stress corrosion cracks in X70 pipeline steel in an acidic soil environment. Corrosion Science, 2009, 51, 895-900.	6.6	143
12	Micro-electrochemical characterization and Mottâ€“Schottky analysis of corrosion of welded X70 pipeline steel in carbonate/bicarbonate solution. Electrochimica Acta, 2009, 55, 316-324.	5.2	140
13	An experimental investigation of corrosion of X100 pipeline steel under uniaxial elastic stress in a near-neutral pH solution. Corrosion Science, 2012, 59, 103-109.	6.6	135
14	Corrosion of X100 pipeline steel under plastic strain in a neutral pH bicarbonate solution. Corrosion Science, 2012, 64, 145-152.	6.6	133
15	An intelligent coating doped with inhibitor-encapsulated nanocontainers for corrosion protection of pipeline steel. Chemical Engineering Journal, 2017, 315, 537-551.	12.7	132
16	Micro-electrochemical characterization of corrosion of welded X70 pipeline steel in near-neutral pH solution. Corrosion Science, 2009, 51, 1714-1724.	6.6	131
17	Effect of cathodic protection on corrosion of pipeline steel under disbonded coating. Corrosion Science, 2009, 51, 2242-2245.	6.6	131
18	Mechanistic investigation of hydrogen-enhanced anodic dissolution of X-70 pipe steel and its implication on near-neutral pH SCC of pipelines. Electrochimica Acta, 2007, 52, 8111-8117.	5.2	128

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19	Development of a finite element model for simulation and prediction of mechanoelectrochemical effect of pipeline corrosion. Corrosion Science, 2013, 73, 150-160.	6.6	128
20	Corrosion inhibition of carbon steel in CO2-containing oilfield produced water in the presence of iron-oxidizing bacteria and inhibitors. Corrosion Science, 2016, 105, 149-160.	6.6	128
21	4-aminoazobenzene modified natural glucomannan as a green eco-friendly inhibitor for the mild steel in 0.5 M HCl solution. Corrosion Science, 2019, 151, 132-142.	6.6	128
22	Effects of alternating current on corrosion of a coated pipeline steel in a chloride-containing carbonate/bicarbonate solution. Corrosion Science, 2010, 52, 612-619.	6.6	127
23	Localized corrosion of carbon steel in a CO2-saturated oilfield formation water. Electrochimica Acta, 2011, 56, 1676-1685.	5.2	122
24	Local additional potential model for effect of strain rate on SCC of pipeline steel in an acidic soil solution. Corrosion Science, 2009, 51, 2863-2871.	6.6	121
25	Corrosion of X65 steel in CO2-saturated oilfield formation water in the absence and presence of acetic acid. Corrosion Science, 2009, 51, 1589-1595.	6.6	120
26	Effects of corrosion product deposit on the subsequent cathodic and anodic reactions of X-70 steel in near-neutral pH solution. Corrosion Science, 2008, 50, 3116-3122.	6.6	119
27	The effect of magneticfield on biomineralization and corrosion behavior of carbon steel induced by iron-oxidizing bacteria. Corrosion Science, 2016, 102, 93-102.	6.6	118
28	Mechanism for hydrogen evolution reaction on pipeline steel in near-neutral pH solution. Electrochemistry Communications, 2007, 9, 558-562.	4.7	116
29	The role of chloride ions in pitting of carbon steel studied by the statistical analysis of electrochemical noise. Applied Surface Science, 1999, 152, 161-168.	6.1	113
30	Effect of roughness on general corrosion and pitting of (FeCoCrNi)0.89(WC)0.11 high-entropy alloy composite in 3.5 wt.% NaCl solution. Corrosion Science, 2019, 146, 44-57.	6.6	112
31	Fabrication of Niâ€“Coâ€“SiC composite coatings by pulse electrodeposition â€” Effects of duty cycle and pulse frequency. Surface and Coatings Technology, 2013, 216, 282-288.	4.8	110
32	Reliability and failure pressure prediction of various grades of pipeline steel inÂtheÂpresence of corrosion defects and pre-strain. International Journal of Pressure Vessels and Piping, 2012, 89, 75-84.	2.6	109
33	Effect of heat treatment on microstructure evolution and erosionâ€“corrosion behavior of a nickelâ€“aluminum bronze alloy in chloride solution. Corrosion Science, 2015, 98, 260-270.	6.6	106
34	Corrosion of X80 pipeline steel under sulfate-reducing bacterium biofilms in simulated CO2-saturated oilfield produced water with carbon source starvation. Corrosion Science, 2018, 136, 47-59.	6.6	104
35	Understand the occurrence of pitting corrosion of pipeline carbon steel under cathodic polarization. Electrochimica Acta, 2012, 60, 259-263.	5.2	103
36	Localized EIS characterization of corrosion of steel at coating defect under cathodic protection. Electrochimica Acta, 2008, 54, 628-633.	5.2	102

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37	Corrosion of antibacterial Cu-bearing 316L stainless steels in the presence of sulfate reducing bacteria. Corrosion Science, 2018, 132, 46-55.	6.6	102
38	Effect of alternating current on cathodic protection on pipelines. Corrosion Science, 2013, 66, 263-268.	6.6	101
39	Development of a real-time AC/DC data acquisition technique for studies of AC corrosion of pipelines. Corrosion Science, 2012, 61, 215-223.	6.6	99
40	Corrosion of steel under the defected coating studied by localized electrochemical impedance spectroscopy. Electrochimica Acta, 2008, 53, 4740-4747.	5.2	98
41	Corrosion of the stressed pipe steel in carbonateâ€“bicarbonate solution studied by scanning localized electrochemical impedance spectroscopy. Electrochimica Acta, 2008, 53, 2831-2836.	5.2	96
42	A comparison of the pitting susceptibility and semiconducting properties of the passive films on carbon steel in chromate and bicarbonate solutions. Applied Surface Science, 2000, 167, 113-121.	6.1	93
43	Corrosion behavior of X-70 pipe steel in near-neutral pH solution. Applied Surface Science, 2007, 253, 8626-8631.	6.1	93
44	Passivity and pitting of carbon steel in chromate solutions. Electrochimica Acta, 1999, 44, 4795-4804.	5.2	92
45	Micro-electrochemical characterization of the effect of applied stress on local anodic dissolution behavior of pipeline steel under near-neutral pH condition. Electrochimica Acta, 2009, 54, 1499-1505.	5.2	92
46	Mechanism of microbiologically influenced corrosion of X52 pipeline steel in a wet soil containing sulfate-reduced bacteria. Electrochimica Acta, 2017, 253, 368-378.	5.2	91
47	Electronic structure and pitting behavior of 3003 aluminum alloy passivated under various conditions. Electrochimica Acta, 2009, 54, 4155-4163.	5.2	90
48	Understand the AC induced pitting corrosion on pipelines in both high pH and neutral pH carbonate/bicarbonate solutions. Corrosion Science, 2014, 85, 304-310.	6.6	90
49	Electrochemical polarization behavior of X70 steel in thin carbonate/bicarbonate solution layers trapped under a disbonded coating and its implication on pipeline SCC. Corrosion Science, 2010, 52, 2511-2518.	6.6	89
50	Fundamentals of hydrogen evolution reaction and its implications on near-neutral pH stress corrosion cracking of pipelines. Electrochimica Acta, 2007, 52, 2661-2667.	5.2	88
51	Electrochemical corrosion of X65 pipe steel in oil/water emulsion. Corrosion Science, 2009, 51, 901-907.	6.6	87
52	Triazolyl-acylhydrazone derivatives as novel inhibitors for copper corrosion in chloride solutions. Corrosion Science, 2015, 100, 341-352.	6.6	86
53	Spectral analysis of electrochemical noise with different transient shapes. Electrochimica Acta, 2000, 45, 1763-1771.	5.2	80
54	Electrolytic deposition of Niâ€“Coâ€“Al2O3 composite coating on pipe steel for corrosion/erosion resistance in oil sand slurry. Electrochimica Acta, 2007, 53, 511-517.	5.2	80

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55	Electrochemical corrosion behavior of X-65 steel in the simulated oil sand slurry. I: Effects of hydrodynamic condition. Corrosion Science, 2008, 50, 773-779.	6.6	80
56	Electrochemical characterization and computational fluid dynamics simulation of flow-accelerated corrosion of X65 steel in a CO2-saturated oilfield formation water. Corrosion Science, 2010, 52, 2716-2724.	6.6	80
57	Unexpected cathodic role of Mg41Sm5 phase in mitigating localized corrosion of extruded Mg-Sm-Zn-Zr alloy in NaCl solution. Corrosion Science, 2019, 159, 108133.	6.6	79
58	Investigation of erosionâ€“corrosion of 3003 aluminum alloy in ethylene glycolâ€“water solution by impingement jet system. Corrosion Science, 2009, 51, 283-290.	6.6	78
59	Reviewâ€”Electrochemical Noise Applied in Corrosion Science: Theoretical and Mathematical Models towards Quantitative Analysis. Journal of the Electrochemical Society, 2020, 167, 081507.	2.9	78
60	Effects of Microstructure on Corrosion of X70 Pipe Steel in an Alkaline Soil. Journal of Materials Engineering and Performance, 2009, 18, 216-220.	2.5	77
61	Parametric effects on the erosionâ€“corrosion rate and mechanism of carbon steel pipes in oil sands slurry. Wear, 2012, 276-277, 141-148.	3.1	76
62	Preparation of graphene nanoplate added zinc-rich epoxy coatings for enhanced sacrificial anode-based corrosion protection. Corrosion Science, 2019, 159, 108120.	6.6	75
63	pH responsive antifouling and antibacterial multilayer films with Self-healing performance. Chemical Engineering Journal, 2019, 356, 130-141.	12.7	74
64	Antifouling and antibacterial behaviors of capsaicin-based pH responsive smart coatings in marine environments. Materials Science and Engineering C, 2020, 108, 110361.	7.3	74
65	Microbial corrosion of X52 pipeline steel under soil with varied thicknesses soaked with a simulated soil solution containing sulfate-reducing bacteria and the associated galvanic coupling effect. Electrochimica Acta, 2018, 266, 312-325.	5.2	73
66	Electrochemical corrosion behavior of X-65 steel in the simulated oilâ€“sand slurry. II: Synergism of erosion and corrosion. Corrosion Science, 2008, 50, 1469-1474.	6.6	72
67	Mechanistic aspects of microbially influenced corrosion of X52 pipeline steel in a thin layer of soil solution containing sulphate-reducing bacteria under various gassing conditions. Corrosion Science, 2018, 133, 178-189.	6.6	71
68	Metastable Pitting of Carbon Steel under Potentiostatic Control. Journal of the Electrochemical Society, 1999, 146, 970-976.	2.9	70
69	In situ characterization by localized electrochemical impedance spectroscopy of the electrochemical activity of microscopic inclusions in an X100 steel. Corrosion Science, 2011, 53, 850-853.	6.6	70
70	Surfactant-free electrochemical synthesis of hierarchical platinum particle electrocatalysts for oxidation of ammonia. Journal of Power Sources, 2013, 223, 165-174.	7.8	70
71	Assessment by finite element modeling of the interaction of multiple corrosion defects and the effect on failure pressure of corroded pipelines. Engineering Structures, 2018, 165, 278-286.	5.3	70
72	Passive film growth on carbon steel and its nanoscale features at various passivating potentials. Applied Surface Science, 2017, 396, 144-153.	6.1	68

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73	Effect of sulfide films formed on X65 steel surface on hydrogen permeation in H2S environments. International Journal of Hydrogen Energy, 2017, 42, 4561-4570.	7.1	68
74	Electrodeposited Niâ€“Pt binary alloys as electrocatalysts for oxidation of ammonia. Journal of Power Sources, 2007, 173, 96-101.	7.8	67
75	Accelerated corrosion of pipeline steel and reduced cathodic protection effectiveness under direct current interference. Construction and Building Materials, 2017, 148, 675-685.	7.2	65
76	Determination of the diffusivity of point defects in passive films on carbon steel. Thin Solid Films, 2002, 416, 169-173.	1.8	64
77	Electrochemical state conversion model for occurrence of pitting corrosion on a cathodically polarized carbon steel in a near-neutral pH solution. Electrochimica Acta, 2011, 56, 4167-4175.	5.2	64
78	One-step facile preparation of ZnO nanorods as high-performance photoanodes for photoelectrochemical cathodic protection. Electrochimica Acta, 2018, 276, 311-318.	5.2	64
79	Thermodynamically modeling the interactions of hydrogen, stress and anodic dissolution at crack-tip during near-neutral pH SCC in pipelines. Journal of Materials Science, 2007, 42, 2701-2705.	3.7	63
80	In-situ characterization of the electrochemistry of grain and grain boundary of an X70 steel in a near-neutral pH solution. Electrochemistry Communications, 2010, 12, 936-938.	4.7	63
81	Mechanistic aspects of electrochemical corrosion of aluminum alloy in ethylene glycolâ€“water solution. Electrochimica Acta, 2008, 53, 8245-8252.	5.2	61
82	Micro-electrochemical characterization of corrosion of pre-cracked X70 pipeline steel in a concentrated carbonate/bicarbonate solution. Corrosion Science, 2010, 52, 960-968.	6.6	61
83	Analysis of the role of electrode capacitance on the initiation of pits for A516 carbon steel by electrochemical noise measurements. Corrosion Science, 1999, 41, 1245-1256.	6.6	60
84	Catalytic electrolysis of ammonia on platinum in alkaline solution for hydrogen generation. International Journal of Hydrogen Energy, 2008, 33, 5897-5904.	7.1	60
85	Hydrogen trapping and hydrogen induced cracking of welded X100 pipeline steel in H2S environments. International Journal of Hydrogen Energy, 2018, 43, 2293-2306.	7.1	60
86	Electrolytic deposition of Niâ€“Coâ€“SiC nano-coating for erosion-enhanced corrosion of carbon steel pipes in oilsand slurry. Surface and Coatings Technology, 2011, 205, 3198-3204.	4.8	58
87	The influence of cathodic protection potential on the biofilm formation and corrosion behaviour of an X70 steel pipeline in sulfate reducing bacteria media. Journal of Alloys and Compounds, 2017, 729, 180-188.	5.5	58
88	Preparation of Co3O4@ZnO core-shell nanocomposites with intrinsic p-n junction as high-performance photoelectrodes for photoelectrochemical cathodic protection under visible light. Applied Surface Science, 2019, 476, 815-821.	6.1	57
89	Mechanistic aspects of electrodeposition of Niâ€“Coâ€“SiC composite nano-coating on carbon steel. Electrochimica Acta, 2013, 109, 638-644.	5.2	56
90	Stearic acid modified zinc nano-coatings with superhydrophobicity and enhanced antifouling performance. Surface and Coatings Technology, 2018, 340, 55-65.	4.8	55

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91	Effect of cathodic protection potential fluctuations on pitting corrosion of X100 pipeline steel in acidic soil environment. Corrosion Science, 2018, 143, 428-437.	6.6	55
92	Characterization of corrosion of X65 pipeline steel under disbonded coating by scanning Kelvin probe. Corrosion Science, 2009, 51, 914-920.	6.6	54
93	Effect of alternating current on corrosion and effectiveness of cathodic protection of pipelines. Canadian Metallurgical Quarterly, 2012, 51, 81-90.	1.2	54
94	Effect of fluid flow on biofilm formation and microbiologically influenced corrosion of pipelines in oilfield produced water. Journal of Petroleum Science and Engineering, 2017, 156, 451-459.	4.2	54
95	Mechanism of electrochemical corrosion of carbon steel under deoxygenated water drop and sand deposit. Electrochimica Acta, 2013, 114, 403-408.	5.2	53
96	Corrosion of carbon steels in high-temperature water studied by electrochemical techniques. Corrosion Science, 2004, 46, 2405-2420.	6.6	52
97	Characterization of corrosion of X70 pipeline steel in thin electrolyte layer under disbonded coating by scanning Kelvin probe. Corrosion Science, 2009, 51, 186-190.	6.6	51
98	Synergistic effects of fluid flow and sand particles on erosionâ€“corrosion of aluminum in ethylene glycolâ€“water solutions. Wear, 2008, 265, 367-374.	3.1	50
99	On the essential role of current density in electrocatalytic activity of the electrodeposited platinum for oxidation of ammonia. Journal of Power Sources, 2011, 196, 8064-8072.	7.8	50
100	Microbiologically influenced corrosion of 316L stainless steel in the presence of Chlorella vulgaris. International Biodeterioration and Biodegradation, 2018, 129, 209-216.	3.9	50
101	Quantitative characterization by micro-electrochemical measurements of the synergism of hydrogen, stress and dissolution on near-neutral pH stress corrosion cracking of pipelines. Corrosion Science, 2011, 53, 2927-2933.	6.6	48
102	Microbiologically-enhanced galvanic corrosion of the steel beneath a deposit in simulated oilfield-produced water containing Desulfotomaculum nigrificans. Electrochemistry Communications, 2018, 90, 1-5.	4.7	48
103	Visible light illuminated high-performance WO3-TiO2-BiVO4 nanocomposite photoanodes capable of energy self-storage for photo-induced cathodic protection. Corrosion Science, 2020, 164, 108333.	6.6	48
104	Synergism of imidazoline and sodium dodecylbenzenesulphonate inhibitors on corrosion inhibition of X52 carbon steel in CO2-saturated chloride solutions. Journal of Molecular Liquids, 2019, 294, 111674.	4.9	47
105	Monitor safety of aged fuel pipelines. Nature, 2016, 529, 156-156.	27.8	46
106	Adhesion of Bacillus subtilis and Pseudoalteromonas lipolytica to steel in a seawater environment and their effects on corrosion. Colloids and Surfaces B: Biointerfaces, 2017, 157, 157-165.	5.0	46
107	Experimental and numerical studies of effectiveness of cathodic protection at corrosion defects on pipelines. Corrosion Science, 2014, 78, 162-171.	6.6	45
108	Stress corrosion cracking of 2205 duplex stainless steel in H2Sâ€“CO2 environment. Journal of Materials Science, 2009, 44, 4228-4234.	3.7	44

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109	Modeling by computational fluid dynamics simulation of pipeline corrosion in CO 2 -containing oil-water two phase flow. Journal of Petroleum Science and Engineering, 2016, 146, 134-141.	4.2	43
110	Effect of surface finishing on early-stage corrosion of a carbon steel studied by electrochemical and atomic force microscope characterizations. Applied Surface Science, 2016, 366, 95-103.	6.1	43
111	Effect of selected biocides on microbiologically influenced corrosion caused by Desulfovibrio ferrophilus IS5. Scientific Reports, 2018, 8, 16620.	3.3	43
112	Hydrogen permeation and distribution at a high-strength X80 steel weld under stressing conditions and the implication on pipeline failure. International Journal of Hydrogen Energy, 2021, 46, 23100-23112.	7.1	43
113	Temperature dependence of the electrochemical corrosion characteristics of carbon steel in a salty soil. Journal of Applied Electrochemistry, 2009, 39, 277-282.	2.9	42
114	Erosion accelerated corrosion of a carbon steelâ€“stainless steel galvanic couple in a chloride solution. Wear, 2010, 270, 39-45.	3.1	42
115	Study of cathodic protection shielding under coating disbondment on pipelines. Corrosion Science, 2015, 99, 249-257.	6.6	42
116	Characterization of Atmospheric Corrosion of 2A12 Aluminum Alloy in Tropical Marine Environment. Journal of Materials Engineering and Performance, 2010, 19, 591-598.	2.5	41
117	Passivity and Pitting Corrosion of X80 Pipeline Steel in Carbonate/Bicarbonate Solution Studied by Electrochemical Measurements. Journal of Materials Engineering and Performance, 2010, 19, 1311-1317.	2.5	41
118	Microbiologically influenced corrosion of X52 pipeline steel in thin layers of solution containing sulfate-reducing bacteria trapped under disbonded coating. Corrosion Science, 2018, 145, 271-282.	6.6	41
119	Corrosion of underground pipelines in clay soil with varied soil layer thicknesses and aerations. Arabian Journal of Chemistry, 2020, 13, 3601-3614.	4.9	41
120	A finite element based model for prediction of corrosion defect growth on pipelines. International Journal of Pressure Vessels and Piping, 2017, 153, 70-79.	2.6	40
121	Thermodynamics of spontaneous dissociation and dissociative adsorption of hydrogen molecules and hydrogen atom adsorption and absorption on steel under pipelining conditions. International Journal of Hydrogen Energy, 2021, 46, 34469-34486.	7.1	37
122	Hydrogen-induced degradation of high-strength steel pipeline welds: A critical review. Engineering Failure Analysis, 2022, 133, 105985.	4.0	37
123	Hydrogen Permeation and Electrochemical Corrosion Behavior of the X80 Pipeline Steel Weld. Journal of Materials Engineering and Performance, 2013, 22, 170-175.	2.5	36
124	Bi-layered CeO2/SrTiO3 nanocomposite photoelectrode for energy storage and photocathodic protection. Electrochimica Acta, 2017, 253, 134-141.	5.2	35
125	Development mechanism of internal local corrosion of X80 pipeline steel. Journal of Materials Science and Technology, 2020, 49, 186-201.	10.7	35
126	Role of second phase particles in pitting corrosion of 3003 Al alloy in NaCl solution. Materials and Corrosion - Werkstoffe Und Korrosion, 2010, 61, 211-217.	1.5	34

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127	Investigation by numerical modeling of the mechano-electrochemical interaction of circumferentially aligned corrosion defects on pipelines. Thin-Walled Structures, 2019, 144, 106314.	5.3	34
128	Effect of heat treatment on microstructure evolution and erosionâ€“corrosion behavior of a nickelâ€“aluminum bronze alloy in chloride solution. Corrosion Science, 2015, 98, 260-270.	6.6	34
129	Electrochemical characterization and CFD simulation of flow-assisted corrosion of aluminum alloy in ethylene glycolâ€“water solution. Corrosion Science, 2008, 50, 2094-2100.	6.6	33
130	Corrosion and Stress Corrosion Cracking Behavior of X70 Pipeline Steel in a CO2-Containing Solution. Journal of Materials Engineering and Performance, 2009, 18, 319-323.	2.5	33
131	Modelling of mechano-electrochemical interaction of multiple longitudinally aligned corrosion defects on oil/gas pipelines. Engineering Structures, 2019, 190, 9-19.	5.3	33
132	Mechano-electrochemical interaction for pipeline corrosion: A review. Journal of Pipeline Science and Engineering, 2021, 1, 1-16.	4.8	33
133	Investigation of the electrocatalytic activity of nickel for ammonia oxidation. Materials Chemistry and Physics, 2008, 108, 247-250.	4.0	32
134	Effect of Strain Rate on Cathodic Reaction During Stress Corrosion Cracking of X70 Pipeline Steel in a Near-Neutral pH Solution. Journal of Materials Engineering and Performance, 2011, 20, 1242-1246.	2.5	32
135	Corrosion of X52 pipeline steel in a simulated soil solution with coexistence of Desulfovibrio desulfuricans and Pseudomonas aeruginosa bacteria. Corrosion Science, 2020, 173, 108753.	6.6	32
136	Effect of fluid hydrodynamics on flow-assisted corrosion of aluminum alloy in ethylene glycolâ€“water solution studied by a microelectrode technique. Corrosion Science, 2009, 51, 2330-2335.	6.6	31
137	Essential role of element Si in corrosion resistance of a bridge steel in chloride atmosphere. Corrosion Science, 2020, 173, 108758.	6.6	31
138	Failure pressure prediction by defect assessment and finite element modelling on natural gas pipelines under cyclic loading. Journal of Natural Gas Science and Engineering, 2020, 81, 103445.	4.4	31
139	Title is missing!. Journal of Applied Electrochemistry, 1998, 28, 1371-1375.	2.9	30
140	Fabrication of Halloysite nanocontainers and their compatibility with epoxy coating for anti-corrosion performance. Corrosion Engineering Science and Technology, 2016, 51, 489-497.	1.4	30
141	Fabrication of ZnO/rGO/PPy heterostructure for electrochemical detection of mercury ion. Journal of Electroanalytical Chemistry, 2018, 826, 90-95.	3.8	30
142	A review on defect assessment of pipelines: Principles, numerical solutions, and applications. International Journal of Pressure Vessels and Piping, 2021, 191, 104329.	2.6	30
143	Fabrication by electrolytic deposition of Ptâ€“Ni electrocatalyst for oxidation of ammonia in alkaline solution. International Journal of Hydrogen Energy, 2008, 33, 6681-6686.	7.1	29
144	Corrosion of 7A04 aluminum alloy under defected epoxy coating studied by localized electrochemical impedance spectroscopy. Progress in Organic Coatings, 2010, 67, 269-273.	3.9	29

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145	Electrochemical investigation of the corrosion behavior of chromium-modified carbon steels in water. Electrochimica Acta, 2003, 48, 1521-1530.	5.2	28
146	Electrochemical characterization of metastable pitting of 3003 aluminum alloy in ethylene glycolâ€“water solution. Journal of Materials Science, 2007, 42, 8613-8617.	3.7	28
147	Characterization of the permeability of a high performance composite coating to cathodic protection and its implications on pipeline integrity. Progress in Organic Coatings, 2011, 72, 423-428.	3.9	28
148	Enhanced corrosion protection property of Li-Al layered double hydroxides (LDHs) film modified by 2-guanidinosuccinic acid with excellent self-repairing and self-antibacterial properties. Applied Surface Science, 2019, 480, 384-394.	6.1	28
149	Effect of uniaxial elastic stress on corrosion of X80 pipeline steel in an acidic soil solution containing sulfate-reducing bacteria trapped under disbonded coating. Corrosion Science, 2021, 193, 109893.	6.6	28
150	Statistical analysis of metastable pitting events on carbon steel. Corrosion Engineering Science and Technology, 2000, 35, 125-130.	0.3	27
151	Characterization of high performance composite coating for the northern pipeline application. Progress in Organic Coatings, 2007, 60, 148-152.	3.9	27
152	Corrosion of Welded X100 Pipeline Steel in a Near-Neutral pH Solution. Journal of Materials Engineering and Performance, 2010, 19, 834-840.	2.5	27
153	Nanopatterning of steel by one-step anodization for anti-adhesion of bacteria. Scientific Reports, 2017, 7, 5326.	3.3	26
154	Three-dimensional graphene nanosheet doped with gold nanoparticles as electrochemical DNA biosensor for bacterial detection. Sensors and Actuators B: Chemical, 2018, 262, 860-868.	7.8	26
155	Modeling of local buckling of corroded X80 gas pipeline under axial compression loading. Journal of Natural Gas Science and Engineering, 2020, 81, 103472.	4.4	26
156	Facile Li-Al layered double hydroxide films on Al alloy for enhanced hydrophobicity, anti-biofouling and anti-corrosion performance. Journal of Materials Science and Technology, 2021, 79, 230-242.	10.7	26
157	Microstructural response and improving surface mechanical properties of pure copper subjected to laser shock peening. Applied Surface Science, 2021, 564, 150336.	6.1	26
158	Corrosion of pipelines in CO2-saturated oil-water emulsion flow studied by electrochemical measurements and computational fluid dynamics modeling. Journal of Petroleum Science and Engineering, 2016, 147, 408-415.	4.2	25
159	Fabrication by electrolytic deposition of platinum black electrocatalyst for oxidation of ammonia in alkaline solution. Journal of Power Sources, 2008, 177, 50-55.	7.8	24
160	Development of innovative coating technology for pipeline operation crossing the permafrost terrain. Construction and Building Materials, 2008, 22, 417-422.	7.2	24
161	Corrosion inhibition behavior of X80 pipeline steel by imidazoline derivative in the CO2-saturated seawater containing sulfate-reducing bacteria with organic carbon starvation. Corrosion Science, 2022, 203, 110345.	6.6	24
162	Mechanism of electrochemical corrosion of steel under water drop. Electrochemistry Communications, 2013, 35, 8-11.	4.7	23

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163	Corrosion of initial pits on abandoned X52 pipeline steel in a simulated soil solution containing sulfate-reducing bacteria. Journal of Materials Research and Technology, 2020, 9, 7180-7189.	5.8	23
164	Synergistic Effects of Hydrogen and Stress on Corrosion of X100 Pipeline Steel in a Near-Neutral pH Solution. Journal of Materials Engineering and Performance, 2010, 19, 1284-1289.	2.5	22
165	A comparative study of corrosion of 316L stainless steel in biotic and abiotic sulfide environments. International Biodeterioration and Biodegradation, 2017, 120, 91-96.	3.9	22
166	Local buckling failure analysis of high strength pipelines containing a plain dent under bending moment. Journal of Natural Gas Science and Engineering, 2020, 77, 103266.	4.4	22
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168	Finite element modeling of corrosion defect growth and failure pressure prediction of pipelines. International Journal of Pressure Vessels and Piping, 2021, 194, 104509.	2.6	22
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