

Rajan Ambat

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.

99
papers

1,361
citations

20
h-index

33
g-index

107
ext. papers

1,704
ext. citations

3.2
avg, IF

4.92
L-index

#	Paper	IF	Citations
99	Importance of PCBA cleanliness in humidity interaction with electronics 2022 , 141-196		
98	Factors determining water film buildup on surfaces and relevance to corrosion in electronics 2022 , 93-140		
97	Materials and processes for electronic devices and components: how they contribute to corrosion reliability? 2022 , 197-250		
96	Corrosion reliability testing, standards, and failure analysis 2022 , 339-380		
95	Preventive measures for corrosion in electronics: intrinsic and extrinsic strategies 2022 , 285-337		
94	Amino acids as activators for wave solder flux systems: Investigation of solderability and humidity effects. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2022 , 1-1	1.7	1
93	Investigation of critical factors effect to predict leakage current and time to failure due to ECM on PCB under humidity. <i>Microelectronics Reliability</i> , 2021 , 127, 114418	1.2	1
92	Electrochemical and molecular modelling studies of CO2 corrosion inhibition characteristics of alkanolamine molecules for the protection of 1Cr steel. <i>Corrosion Science</i> , 2021 , 109999	6.8	1
91	. <i>IEEE Transactions on Device and Materials Reliability</i> , 2021 , 1-1	1.6	1
90	Preparation of magnetic nanoparticles by one step synthesis with morphology of particles changed based on time of reaction and temperature treatment. <i>Journal of Experimental Nanoscience</i> , 2021 , 16, 1-10	1.9	1
89	Investigation on the Hygroscopicity of Deposits at the Cold-End of Biomass and Coal-Fired Plants. <i>Energy & Fuels</i> , 2021 , 35, 8006-8022	4.1	
88	Microstructure-dependent corrosion of herringbone-grooved embossed Al1.1 wt% Mn strips for heat exchanger tubes. <i>Materials and Corrosion - Werkstoffe Und Korrosion</i> , 2021 , 72, 1582	1.6	0
87	Effect of intrinsic PCB parameters on the performance of fluoropolymer coating under condensing humidity conditions. <i>Microelectronics Reliability</i> , 2021 , 122, 114158	1.2	0
86	Characteristics of scales and their impacts on under-deposit corrosion in an oil production well. <i>Materials and Corrosion - Werkstoffe Und Korrosion</i> , 2021 , 72, 1051-1064	1.6	1
85	Effect of initial CaCO3 saturation levels on the CO2 corrosion of 1Cr carbon steel. <i>Materials and Corrosion - Werkstoffe Und Korrosion</i> , 2021 , 72, 1076-1090	1.6	3
84	Alkanolamines as activators in no-clean flux systems: investigation of humidity robustness and solderability. <i>Journal of Materials Science: Materials in Electronics</i> , 2021 , 32, 4961-4981	2.1	3
83	Humidity Control in Electronic Devices: Water Sorption Properties of Desiccants and Related Humidity Build-Up in Enclosures. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2021 , 11, 324-332	1.7	2

82	Transformation of reflow solder flux residue under humid conditions. <i>Microelectronics Reliability</i> , 2021 , 123, 114195	1.2	2
81	Statistical analysis of corrosion failures in hearing aid devices from tropical regions. <i>Engineering Failure Analysis</i> , 2021 , 130, 105758	3.2	0
80	An electrochemical and X-ray computed tomography investigation of the effect of temperature on CO ₂ corrosion of 1Cr carbon steel. <i>Corrosion Science</i> , 2020 , 166, 108471	6.8	12
79	Characterization, formation and development of scales on L80 steel tube resulting from seawater injection treatment. <i>Journal of Petroleum Science and Engineering</i> , 2020 , 193, 107433	4.4	3
78	Humidity Robustness of Plasma-Coated PCBs. <i>Journal of Electronic Materials</i> , 2020 , 49, 848-860	1.9	0
77	Influence of Ni, Bi, and Sb additives on the microstructure and the corrosion behavior of SnAgCu solder alloys. <i>Journal of Materials Science: Materials in Electronics</i> , 2020 , 31, 15308-15321	2.1	1
76	Residue-Assisted Water Layer Build-Up Under Transient Climatic Conditions and Failure Occurrences in Electronics. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2020 , 10, 1617-1635	1.7	7
75	Corrosion of carbon steel under CO ₂ conditions: Effect of CaCO ₃ precipitation on the stability of the FeCO ₃ protective layer. <i>Corrosion Science</i> , 2020 , 162, 108214	6.8	9
74	On the microstructural and electrochemical nature of hydrothermally treated Al-Zr and Al-Ti surfaces. <i>Corrosion Science</i> , 2020 , 163, 108244	6.8	1
73	Circuit analysis to predict humidity related failures in electronics - Methodology and recommendations. <i>Microelectronics Reliability</i> , 2019 , 93, 81-88	1.2	4
72	Characterization of blisters on powder coated aluminium AA5006 architectural profiles. <i>Engineering Failure Analysis</i> , 2019 , 103, 347-360	3.2	4
71	High frequency pulse anodising of recycled 5006 aluminium alloy for optimised decorative appearance. <i>Surface and Coatings Technology</i> , 2019 , 368, 42-50	4.4	3
70	Graphene nanoclusters embedded nickel cobaltite nanofibers as multifunctional electrocatalyst for glucose sensing and water-splitting applications. <i>Ceramics International</i> , 2019 , 45, 25078-25091	5.1	11
69	Impact of Process-Related Flux Contamination on the Electronics Reliability Issues Under Detrimental Climatic Conditions 2019 ,		2
68	Polymorph nickel titanate nanofibers as bifunctional electrocatalysts towards hydrogen and oxygen evolution reactions. <i>Dalton Transactions</i> , 2019 , 48, 12684-12698	4.3	8
67	Thermal decomposition of binary mixtures of organic activators used in no-clean fluxes and impact on PCBA corrosion reliability. <i>Soldering and Surface Mount Technology</i> , 2019 , 32, 93-103	1.4	6
66	Electrochemical Impedance Spectroscopy (EIS) for Monitoring the Water Load on PCBAs Under Cycling Condensing Conditions to Predict Electrochemical Migration Under DC Loads 2019 ,		2
65	No-Clean Solder Flux Chemistry and Temperature Effects on Humidity-Related Reliability of Electronics. <i>Journal of Electronic Materials</i> , 2019 , 48, 1207-1222	1.9	16

64	High frequency pulse anodising of aluminium: Anodising kinetics and optical appearance. <i>Surface and Coatings Technology</i> , 2019 , 360, 222-231	4.4	5
63	Experimental Study of Moisture Ingress in First and Second Levels of Electronic Housings. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2018 , 8, 1928-1937	1.7	6
62	A Mechanistic Study on the Structure Formation of NiCo ₂ O ₄ Nanofibers Decorated with In Situ Formed Graphene-Like Structures. <i>Journal of Inorganic and Organometallic Polymers and Materials</i> , 2018 , 28, 1885-1900	3.2	5
61	. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2018 , 8, 1756-1768	1.7	8
60	Influence of de-icing salt chemistry on the corrosion behavior of AA6016. <i>Materials and Corrosion - Werkstoffe Und Korrosion</i> , 2018 , 69, 881-887	1.6	5
59	Transformation of iron containing constituent intermetallic particles during hydrothermal treatment. <i>Thin Solid Films</i> , 2018 , 649, 121-128	2.2	1
58	Parametric Study of Solder Flux Hygroscopicity: Impact of Weak Organic Acids on Water Layer Formation and Corrosion of Electronics. <i>Journal of Electronic Materials</i> , 2018 , 47, 4190-4207	1.9	23
57	Humidity-related failures in electronics: effect of binary mixtures of weak organic acid activators. <i>Journal of Materials Science: Materials in Electronics</i> , 2018 , 29, 17834-17852	2.1	18
56	Electrochemical profiling of multi-clad aluminium sheets used in automotive heat exchangers. <i>Corrosion Science</i> , 2018 , 131, 28-37	6.8	13
55	Microstructure and Corrosion Behavior of Extruded Mg-Zn-Er Alloys. <i>Materials Science Forum</i> , 2018 , 941, 1766-1771	0.4	1
54	Influence of steam-based pre-treatment using acidic chemistries on the adhesion performance of powder coated aluminium alloy AA6060. <i>International Journal of Adhesion and Adhesives</i> , 2017 , 74, 167-174	3.4	3
53	Thermal decomposition of solder flux activators under simulated wave soldering conditions. <i>Soldering and Surface Mount Technology</i> , 2017 , 29, 133-143	1.4	18
52	Colorimetric visualization of tin corrosion: A method for early stage corrosion detection on printed circuit boards. <i>Microelectronics Reliability</i> , 2017 , 73, 158-166	1.2	7
51	Investigation of moisture uptake into printed circuit board laminate and solder mask materials. <i>Journal of Materials Science: Materials in Electronics</i> , 2017 , 28, 6138-6151	2.1	8
50	Analysis of surface insulation resistance related failures in electronics by circuit simulation. <i>Circuit World</i> , 2017 , 43, 45-55	0.7	7
49	Printed Circuit Board Surface Finish and Effects of Chloride Contamination, Electric Field, and Humidity on Corrosion Reliability. <i>Journal of Electronic Materials</i> , 2017 , 46, 817-825	1.9	13
48	Corrosion reliability of lead-free solder systems used in electronics 2017 ,		2
47	Interface strength and degradation of adhesively bonded porous aluminum oxides. <i>Npj Materials Degradation</i> , 2017 , 1,	5.7	23

46	In-situ TEM investigation of microstructural evolution in magnetron sputtered Al ₂ O ₃ and Al ₂ O ₃ /Si coatings during heat treatment. <i>Materials and Design</i> , 2016 , 89, 1071-1078	8.1	17
45	High frequency pulse anodising of magnetron sputtered Al ₂ O ₃ and Al ₂ O ₃ /Si Coatings. <i>Materials and Design</i> , 2016 , 95, 340-347	8.1	8
44	Decomposition of no-clean solder flux systems and their effects on the corrosion reliability of electronics. <i>Journal of Materials Science: Materials in Electronics</i> , 2016 , 27, 23-32	2.1	28
43	Humidity Build-Up in a Typical Electronic Enclosure Exposed to Cycling Conditions and Effect on Corrosion Reliability. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2016 , 6, 1379-1388	1.7	20
42	Improving intrinsic corrosion reliability of printed circuit board assembly 2016 ,		2
41	2016 ,		2
40	Microstructure and corrosion performance of steam-based conversion coatings produced in the presence of TiO ₂ particles on aluminium alloys. <i>Surface and Coatings Technology</i> , 2016 , 296, 1-12	4.4	12
39	Solder Flux Residues and Humidity-Related Failures in Electronics: Relative Effects of Weak Organic Acids Used in No-Clean Flux Systems. <i>Journal of Electronic Materials</i> , 2015 , 44, 1116-1127	1.9	62
38	Steam assisted oxide growth on aluminium alloys using oxidative chemistries: Part I Microstructural investigation. <i>Applied Surface Science</i> , 2015 , 355, 820-831	6.7	8
37	Steam assisted oxide growth on aluminium alloys using oxidative chemistries: Part II corrosion performance. <i>Applied Surface Science</i> , 2015 , 355, 716-725	6.7	4
36	Accelerated growth of oxide film on aluminium alloys under steam: Part I: Effects of alloy chemistry and steam vapour pressure on microstructure. <i>Surface and Coatings Technology</i> , 2015 , 276, 77-88	4.4	20
35	Accelerated growth of oxide film on aluminium alloys under steam: Part II: Effects of alloy chemistry and steam vapour pressure on corrosion and adhesion performance. <i>Surface and Coatings Technology</i> , 2015 , 276, 106-115	4.4	15
34	Effect of High Frequency Pulsing on the Interfacial Structure of Anodized Aluminium-TiO ₂ . <i>Journal of the Electrochemical Society</i> , 2015 , 162, C303-C310	3.9	11
33	Performance Comparison of Steam-Based and Chromate Conversion Coatings on Aluminum Alloy 6060. <i>Corrosion</i> , 2015 , 71, 839-853	1.8	14
32	Role of acidic chemistries in steam treatment of aluminium alloys. <i>Corrosion Science</i> , 2015 , 99, 258-271	6.8	10
31	High frequency anodising of aluminium-TiO ₂ surface composites: Anodising behaviour and optical appearance. <i>Surface and Coatings Technology</i> , 2015 , 277, 67-73	4.4	12
30	Friction stir processed Al-TiO ₂ surface composites: Anodising behaviour and optical appearance. <i>Applied Surface Science</i> , 2015 , 324, 554-562	6.7	22
29	Relative effect of solder flux chemistry on the humidity related failures in electronics. <i>Soldering and Surface Mount Technology</i> , 2015 , 27, 146-156	1.4	34

28	Effect of pulsed voltage on electrochemical migration of tin in electronics. <i>Journal of Materials Science: Materials in Electronics</i> , 2015 , 26, 7997-8007	2.1	9
27	Simulation of electronic circuit sensitivity towards humidity using electrochemical data on water layer 2015 ,		2
26	Effect of interfacial oxide thickness on the photocatalytic activity of magnetron-sputtered TiO ₂ coatings on aluminum substrate. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2015 , 212, 2805-2815	1.6	
25	Simulation of reflectance from white-anodised aluminium surfaces using polyurethane/TiO ₂ composite coatings. <i>Journal of Materials Science</i> , 2015 , 50, 4565-4575	4.3	8
24	Impact of NaCl Contamination and Climatic Conditions on the Reliability of Printed Circuit Board Assemblies. <i>IEEE Transactions on Device and Materials Reliability</i> , 2014 , 14, 42-51	1.6	43
23	Structure of anodized Al/Zr sputter deposited coatings and effect on optical appearance. <i>Applied Surface Science</i> , 2014 , 317, 1113-1124	6.7	13
22	Appearance of anodised aluminium: Effect of alloy composition and prior surface finish. <i>Surface and Coatings Technology</i> , 2014 , 254, 28-41	4.4	21
21	Anodisation of sputter deposited aluminium/titanium coatings: Effect of microstructure on optical characteristics. <i>Surface and Coatings Technology</i> , 2014 , 254, 138-144	4.4	16
20	Contamination profile on typical printed circuit board assemblies vs soldering process. <i>Soldering and Surface Mount Technology</i> , 2014 , 26, 194-202	1.4	29
19	Anodization and Optical Appearance of Sputter Deposited Al-Zr Coatings 2014 , 369-373		
18	Experimental study of water absorption of electronic components and internal local temperature and humidity into electronic enclosure 2014 ,		7
17	Nanoscale surface potential imaging of the photocatalytic TiO ₂ films on aluminum. <i>RSC Advances</i> , 2013 , 3, 23296	3.7	9
16	Effect of No-Clean Flux Residues on the Performance of Acrylic Conformal Coating in Aggressive Environments. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2012 , 2, 719-728	1.7	16
15	Electrochemical migration of tin in electronics and microstructure of the dendrites. <i>Corrosion Science</i> , 2011 , 53, 1659-1669	6.8	44
14	On the electrochemical migration mechanism of tin in electronics. <i>Corrosion Science</i> , 2011 , 53, 3366-3376	6.8	68
13	Morphological study of silver corrosion in highly aggressive sulfur environments. <i>Engineering Failure Analysis</i> , 2011 , 18, 2126-2136	3.2	29
12	Corrosion failure due to flux residues in an electronic add-on device. <i>Engineering Failure Analysis</i> , 2010 , 17, 1263-1272	3.2	49
11	Corrosion in Electronics at Device Level. <i>ECS Transactions</i> , 2009 , 25, 1-14	1	18

10	A corrosion investigation of solder candidates for high-temperature applications. <i>Jom</i> , 2009 , 61, 59-65	2.1	23
9	. <i>Reliability and Maintainability Symposium (RAMS), Annual</i> , 2009 ,		22
8	Electrochemical Migration on Electronic Chip Resistors in Chloride Environments. <i>IEEE Transactions on Device and Materials Reliability</i> , 2009 , 9, 392-402	1.6	44
7	Corrosion Reliability of Electronic Systems. <i>ECS Transactions</i> , 2007 , 6, 17-28	1	13
6	Corrosion investigation of material combinations in a mobile phone dome key pad system. <i>Corrosion Science</i> , 2007 , 49, 2866-2879	6.8	31
5	Intergranular Corrosion and Stress Corrosion Cracking of Sensitised AA5182. <i>Materials Science Forum</i> , 2006 , 519-521, 641-646	0.4	80
4	Effect of iron-containing intermetallic particles on the corrosion behaviour of aluminium. <i>Corrosion Science</i> , 2006 , 48, 3455-3471	6.8	157
3	Electrochemical Behavior of the Active Surface Layer on Rolled Aluminum Alloy Sheet. <i>Journal of the Electrochemical Society</i> , 2004 , 151, B53	3.9	36
2	A flow loop study on the effect of Ca ²⁺ ions on the CO ₂ corrosion of 1Cr carbon steel in a CaCO ₃ -saturated solution. <i>Corrosion Engineering Science and Technology</i> , 1-9	1.7	1
1	Comparative study of tripropylamine and naphthylamine as additives in wave solder flux: investigation of solderability and corrosion effects. <i>Journal of Materials Science: Materials in Electronics</i> , 1	2.1	1