Anil Kunwar

List of Publications by Year
in descending order

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70 papers	631 citations	14 h-index	22 g-index

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72 all docs	72 docs citations	72 times ranked	307 citing authors

#	Article	IF	Citations
1	In situ study on the increase of intermetallic compound thickness at anode of molten tin due to electromigration of copper. Scripta Materialia, 2015, 107, 88-91.	2.6	37
2	Heat and mass transfer effects of laser soldering on growth behavior of interfacial intermetallic compounds in Sn/Cu and Sn-3.5Ag0.5/Cu joints. Microelectronics Reliability, 2018, 80, 55-67.	0.9	34
3	In situ study on growth behavior of interfacial bubbles and its effect on interfacial reaction during a soldering process. Applied Surface Science, 2014, 305, 133-138.	3.1	33
4	A data-driven framework to predict the morphology of interfacial Cu6Sn5 IMC in SAC/Cu system during laser soldering. Journal of Materials Science and Technology, 2020, 50, 115-127.	5.6	31
5	On the increase of intermetallic compound's thickness at the cold side in liquid Sn and SnAg solders under thermal gradient. Materials Letters, 2016, 172, 211-215.	1.3	30
6	Effect of Ag3Sn nanoparticles and temperature on Cu6Sn5 IMC growth in Sn-xAg/Cu solder joints. Materials Research Bulletin, 2018, 99, 239-248.	2.7	29
7	Combining multi-phase field simulation with neural network analysis to unravel thermomigration accelerated growth behavior of Cu6Sn5 IMC at cold side Cuâ€“Sn interface. International Journal of Mechanical Sciences, 2020, 184, 105843.	3.6	27
8	Synthesis of Cu@Ag coreâ€“shell nanoparticles for characterization of thermal stability and electric resistivity. Applied Physics A: Materials Science and Processing, 2018, 124, 1.	1.1	25
9	Integration of machine learning with phase field method to model the electromigration induced Cu6Sn5 IMC growth at anode side Cu/Sn interface. Journal of Materials Science and Technology, 2020, 59, 203-219.	5.6	25
10	Fabrication of cerium myristate coating for a mechanochemically robust modifier-free superwettability system to enhance the corrosion resistance on 316L steel by one-step electrodeposition. Surface and Coatings Technology, 2020, 398, 125970.	2.2	23
11	Evolution behavior and growth kinetics of intermetallic compounds at Sn/Cu interface during multiple reflows. Intermetallics, 2018, 96, 1-12.	1.8	22
12	Size effect on IMC growth induced by Cu concentration gradient and pinning of Ag 3 Sn particles during multiple reflows. Intermetallics, 2017, 90, 90-96.	1.8	18
13	A Study on the Physical Properties and Interfacial Reactions with Cu Substrate of Rapidly Solidified Sn-3.5Ag Lead-Free Solder. Journal of Electronic Materials, 2013, 42, 2686-2695.	1.0	17
14	Roles of interfacial heat transfer and relative solder height on segregated growth behavior of intermetallic compounds in Sn/Cu joints during furnace cooling. Intermetallics, 2018, 93, 186-196.	1.8	17
15	On the thickness of Cu6Sn5 compound at the anode of Cu/liquid Sn/Cu joints undergoing electromigration. Journal of Materials Science: Materials in Electronics, 2016, 27, 7699-7706.	1.1	15
16	Enhancement of hardness of bulk solder by doping Cu nanoparticles at the interface of Sn/Cu solder joint. Microelectronic Engineering, 2019, 208, 47-53.	1.1	15
17	Modeling the diffusion-driven growth of a pre-existing gas bubble in molten tin. Metals and Materials International, 2015, 21, 962-970.	1.8	14
18	Synchrotron radiation imaging study on the rapid IMC growth of Snâ€“xAg solders with Cu and Ni substrates during the heat preservation stage. Journal of Materials Science: Materials in Electronics, 2018, 29, 589-601.	1.1	14

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19	Effect of cooling condition and Ag on the growth of intermetallic compounds in Sn-based solder joints. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	1.1	13
20	Size effect on interface reaction of Snâ€“xCu/Cu solder joints during multiple reflows. Journal of Materials Science: Materials in Electronics, 2019, 30, 4359-4369.	1.1	13
21	Formation mechanism and kinetic analysis of the morphology of Cu6Sn5 in the spherical solder joints at the Sn/Cu liquidâ€“solid interface during soldering cooling stage. Journal of Materials Science: Materials in Electronics, 2017, 28, 5398-5406.	1.1	12
22	Effect of initial Cu concentration on the IMC size and grain aspect ratio in Snâ€“xCu solders during multiple reflows. Journal of Materials Science: Materials in Electronics, 2018, 29, 602-613.	1.1	12
23	Multi-phase field simulation of Al<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e1157" altimg="si16.svg"><mml:msub><mml:mrow /><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:msub></mml:math>Ni<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e1165" altimg="si17.svg"><mml:msub><mml:mrow /><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:math> intermetallic growth at li	3.6	12
24	Study of electrochemical migration based transport kinetics of metal ions in Sn-9Zn alloy. Microelectronics Reliability, 2018, 83, 198-205.	0.9	11
25	Insight into the preferential grain growth of intermetallics under electric current stressing â€“ A phase field modeling. Scripta Materialia, 2021, 203, 114071.	2.6	11
26	Effect of the $$ext {TiO}_2$$ TiO 2 Nanoparticles on the Growth Behavior of Intermetallics in Sn/Cu Solder Joints. Metals and Materials International, 2019, 25, 499-507.	1.8	10
27	Geometrical Effects of Cu@Ag Coreâ€“Shell Nanoparticles Treated Flux on the Growth Behaviour of Intermetallics in Sn/Cu Solder Joints. Electronic Materials Letters, 2019, 15, 253-265.	1.0	9
28	Superhydrophobic Surface and Lubricantâ€Infused Surface: Implementing Two Extremes on Electrodeposited Niï£¿TiO₂ Surface to Drive Optimal Wettability Regimes for Dropletsâ€™ Multifunctional Behaviors. Advanced Engineering Materials, 2021, 23, 2100266.	1.6	8
29	Geometrical outline evolution and size-inhibiting interaction of interfacial solder bubbles and IMCs during multiple reflows. Vacuum, 2017, 145, 103-111.	1.6	7
30	Surface tension of aluminum-oxygen system: A molecular dynamics study. Acta Materialia, 2021, 221, 117430.	3.8	7
31	Phase-field approach to simulate BCC-B2 phase separation in the AlnCrFe2Ni2 medium-entropy alloy. Journal of Materials Science, 0, , 1.	1.7	7
32	Shielding effect of Ag3Sn on growth of intermetallic compounds in isothermal heating and cooling during multiple reflows. Journal of Materials Science: Materials in Electronics, 2018, 29, 4383-4390.	1.1	6
33	Convolutional neural network model for synchrotron radiation imaging datasets to automatically detect interfacial microstructure: An in situ process monitoring tool during solar PV ribbon fabrication. Solar Energy, 2021, 224, 230-244.	2.9	6
34	Study of the interfacial reactions controlling the spreading of Al on Ni. Applied Surface Science, 2022, 571, 151272.	3.1	6
35	Growth behavior of preferentially scalloped intermetallic compounds at extremely thin peripheral Sn/Cu interface. Journal of Materials Science: Materials in Electronics, 2019, 30, 2872-2887.	1.1	5
36	Geometrical effects on growth kinetics of interfacial intermetallic compounds in Sn/Cu joints reflowed with Cu nanoparticles doped flux. Thin Solid Films, 2019, 669, 198-207.	0.8	5

#	ARTICLE	IF	CITATIONS
37	pyMPEALab Toolkit for Accelerating Phase Design in Multi-principal Element Alloys. Metals and Materials International, 2022, 28, 269-281.	1.8	5
38	The nucleation of Ag<inf>3</inf>Sn and the growth orientation relationships with Cu<inf>6</inf>Sn<inf>5</inf>. , 2013, , .		4
39	The study of interficial reaction during rapidly solidified lead-free solder Sn3.5Ag0.7Cu/Cu laser soldering. , 2014, , .		4
40	Modelling the melting of Sn0.7Cu solder using the enthalpy method. , 2016, , .		4
41	Positive feedback on imposed thermal gradient by interfacial bubbles in Cu/liquid Sn-3.5Ag/Cu joints. , 2016, , .		4
42	Effect of the degree of supercooling on growth mechanism of Cu6Sn5 in pure Sn/Cu solder joint. Journal of Materials Science: Materials in Electronics, 2021, 32, 7528-7540.	1.1	4
43	Effect of Hydrothermally Prepared Graft Copolymer Addition on a Brittle Matrix: A Preliminary Study on Glass Fiber Reinforced PLA/LLDPE-g-MA Composite. Advanced Materials Research, 2012, 530, 46-51.	0.3	3
44	A numerical model for diffusion driven gas bubble growth in molten Sn-based solder. , 2014, , .		3
45	Effects of Cu nanoparticles doped flux on the microstructure of IMCs between Sn solder and Cu substrate. , 2017, , .		3
46	All-round suppression of Cu6Sn5 growth in Sn/Cu joints by utilizing TiO2 nanoparticles. Journal of Materials Science: Materials in Electronics, 2018, 29, 15966-15972.	1.1	3
47	Automatic Featurization Aided Data-Driven Method for Estimating the Presence of Intermetallic Phase in Multi-Principal Element Alloys. Metals, 2022, 12, 964.	1.0	3
48	Preferential growth of intermetallics under temperature gradient at Cuâ€“Sn interface during transient liquid phase bonding: insights from phase field simulation. Journal of Materials Research and Technology, 2022, 19, 345-353.	2.6	2
49	Quantitative polynomial free energy based phase field model for void motion and evolution in Sn under thermal gradient. , 2017, , .		1
50	Surface Tension of Aluminum Oxide: A Molecular Dynamics Study. SSRN Electronic Journal, 0, , .	0.4	1
51	Fracture mechanisms of Ni-Al interfaces â€“ A nanoscale view. Materials Today Communications, 2022, 32, 103967.	0.9	1
52	In situ study on growth behavior of interfacial bubbles and its size effect on Sn-0.7cu/Cu interfacial reaction. , 2014, , .		0
53	The growth behavior of IMC on the Sn/Cu interface during solidification of multiple reflows. , 2014, , .		0
54	Effects of soldering temperature and cooling rate on the as-soldered microstructures of intermetallic compounds in Sn-0.7Cu/Cu joint. , 2015, , .		0

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55	In situ aging study on the variation of Sn0.7Cu/Cu solid interface marked by bubbles. , 2015, , .		0
56	The morphology variation of IMC on the solder/bubble interface under different cooling rates and temperatures. , 2016, , .		0
57	The study of the growth behavior of Cu<inf>6</inf>Sn<inf>5</inf> at the Sn/Cu interface during the heating preservation stage. , 2016, , .		0
58	In situ study of real-time growth behavior of IMC morphology evolution during the Sn/Cu soldering cooling stage. , 2016, , .		0
59	Effect of Ag concentration on the Cu<inf>6</inf>Sn<inf>5</inf> growth in Sn-based solder/Cu joints at the isothermal reflow stage. , 2017, , .		0
60	In situ study the effects of Cu addition on the rapidly growth of Cu<inf>6</inf>Sn<inf>5</inf> at the Sn-base solder/Cu L-S interface during soldering heat preservation stage. , 2017, , .		0
61	A Computational Model for Simulation of Temperature During Radio-Frequency Ablation of Biological Tissue. , 2018, , .		0
62	A Numerical Model for Joule heating in Sn Solder Balls of Two Different Sizes. , 2018, , .		0
63	Influence of Cu nanoparticles on Cu<inf>6</inf>Sn<inf>5</inf> growth behavior at the interface of Sn/Cu solder joints. , 2018, , .		0
64	Notice of Violation of IEEE Publication Principles: Effect of soldering temperature on cross-interaction at L-S interface of linear Cu/SAC305/Ni solder joints. , 2018, , .		0
65	Size effects on segregated growth kinetics of interfacial IMC between Sn solder and Cu substrate. , 2019, , .		0
66	Means to Enhance the Production of Water from Solar Thermal Pasteurization System. Journal of the Institute of Engineering, 2011, 8, 39-47.	0.3	0
67	A numerical model for diffusion driven gas bubble growth in molten Sn-based solder. , 2014, , .		0
68	The growth behavior of IMC on the Sn/Cu interface during solidification of multiple reflows. , 2014, , .		0
69	The study of interficial reaction during rapidly solidified lead-free solder Sn3.5Ag0.7Cu/Cu laser soldering. , 2014, , .		0
70	In situ study on growth behavior of interfacial bubbles and its size effect on Sn-0.7cu/Cu interfacial reaction. , 2014, , .		0