

Cheng-Yi Liu

List of Publications by Year in descending order

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113
papers

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citations

331670

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113
docs citations

113
times ranked

1027
citing authors

#	ARTICLE	IF	CITATIONS
1	Mechanism and quantum efficiency of yellow emission at the organic-inorganic F8T2/p-GaN interface. <i>Surfaces and Interfaces</i> , 2022, 29, 101799.	3.0	1
2	Low-Noise, Single-Polarized, and High-Speed Vertical-Cavity Surface-Emitting Lasers for Very Short Reach Data Communication. <i>Journal of Lightwave Technology</i> , 2022, 40, 3845-3854.	4.6	2
3	Cu Sintering Process Modified by Adding a Low Temperature Liquid Sintering Step. <i>Jom</i> , 2022, 74, 1730-1738.	1.9	2
4	Wet-etching mechanism of a semi-sphere pattern on sapphire substrate. <i>Materials Chemistry and Physics</i> , 2022, 281, 125863.	4.0	2
5	Conductive and Transparent Properties of ZnO/Cu/ZnO Sandwich Structure. <i>Journal of Electronic Materials</i> , 2021, 50, 779-785.	2.2	4
6	Effect of Ag solutes on the solid-state Cu dissolution in the Sn _{3.5} Ag. <i>Journal of Materials Science: Materials in Electronics</i> , 2021, 32, 567-576.	2.2	3
7	Effect of mixing glass frits on electrical property and microstructure of sintered Cu conductive thick film. <i>Journal of the American Ceramic Society</i> , 2021, 104, 1707-1715.	3.8	5
8	Flip-Chip Packaged Perovskite Solar Cells. <i>Energy Technology</i> , 2021, 9, 2001129.	3.8	2
9	Effect of De-Twinning on Tensile Strength of Nano-Twinned Cu Films. <i>Nanomaterials</i> , 2021, 11, 1630.	4.1	3
10	Measurement of internal electrical field across InGaN quantum wells in GaN LEDs. <i>Materials Chemistry and Physics</i> , 2021, 265, 124514.	4.0	1
11	Study of galvanized Sn-finished Ag surface. <i>Journal of Materials Science: Materials in Electronics</i> , 2021, 32, 18605-18615.	2.2	0
12	Plastic deformation of ZnO thin films through edge and screw dislocation movements. <i>Journal of the American Ceramic Society</i> , 2021, 104, 6579.	3.8	0
13	Controlling the Electron Concentration for Surface-Enhanced Raman Spectroscopy. <i>ACS Photonics</i> , 2021, 8, 2410-2416.	6.6	6
14	High-mobility ZnVxOy/ZnO conduction path in ZnO/V/ZnO multilayer structure. <i>Journal of Applied Physics</i> , 2021, 130, 075302.	2.5	0
15	Pd/Cu(220) interdiffusion under compressive stress. <i>Materials Chemistry and Physics</i> , 2021, 271, 124882.	4.0	0
16	Effect of Ag Additives on the Consumption of a Cathode Cu Pad in a Cu/Sn _{3.5} Ag/Cu Flip-Chip Structure Under Electromigration. <i>Journal of Electronic Materials</i> , 2021, 50, 6584-6589.	2.2	0
17	Effect of Chemical Additives in the Plating Bath on Surface Corrosion Resistance of Ni(P). <i>Journal of Electronic Materials</i> , 2020, 49, 26-33.	2.2	2
18	Effect of eutectic reaction between depositing atoms and substrate elements on morphological evolution of Sn-Bi-Sn multilayer deposition. <i>Materials Chemistry and Physics</i> , 2020, 250, 122960.	4.0	2

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19	Formation Mechanism of Self-Formed Triangular Pyramidal Patterns on Sapphire Substrate. <i>Crystal Growth and Design</i> , 2020, 20, 4811-4817.	3.0	4
20	High-dielectric-constant silicon nitride thin films fabricated by radio frequency sputtering in Ar and Ar/N ₂ gas mixture. <i>Thin Solid Films</i> , 2020, 709, 138198.	1.8	9
21	Effect of annealing atmosphere (CO and N ₂ gas flow) on surface morphology and crystal quality of AlN buffer layer. <i>Ceramics International</i> , 2020, 46, 11080-11088.	4.8	8
22	Kinetics of Ni solid-state dissolution in Sn and Sn _{3.5} Ag alloys. <i>Journal of Alloys and Compounds</i> , 2019, 797, 684-691.	5.5	18
23	Fabrication of p-type TiO ₂ and transparent p-TiO ₂ /n-ITO p-n junctions. <i>AIP Advances</i> , 2019, 9, .	1.3	2
24	Experiment and Theoretical Calculation of the Surface Space Charge Region Effect on Photocurrent Generation of SnO ₂ Bilayer Photodiode Devices. <i>Advanced Electronic Materials</i> , 2019, 5, 1800679.	5.1	0
25	Fabrication of Aluminum Nitride Thermal Substrate and Low-Temperature Die-Bonding Process for High Power LED. <i>Journal of Electronic Materials</i> , 2019, 48, 194-200.	2.2	2
26	Photocurrent generation in SnO ₂ thin film by surface charged chemisorption O ions. <i>Applied Surface Science</i> , 2018, 442, 398-402.	6.1	8
27	Fully Solution-Processed Low-Voltage Driven Transparent Oxide Thin Film Transistors. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2018, 215, 1800192.	1.8	8
28	Mechanism of Ag sulfurization resistance improvement by alloying solutes in Ag-based alloy films. <i>Journal of Applied Physics</i> , 2018, 123, 245305.	2.5	2
29	Growth Direction Control of ZnO Nanorods on the Edge of Patterned Indium-Tin Oxide/Aluminum-Doped Zinc Oxide Bilayers. <i>Crystal Growth and Design</i> , 2017, 17, 3100-3106.	3.0	2
30	Fabrication of nano-cavity patterned sapphire substrate using self-assembly meshed Pt thin film on c-plane sapphire substrate. <i>Thin Solid Films</i> , 2017, 628, 127-131.	1.8	13
31	Effect of Cu solubility on electromigration in Sn(Cu) micro joint. <i>Journal of Applied Physics</i> , 2017, 122, 095702.	2.5	7
32	Organic/inorganic F8T2/GaN light emitting heterojunction. <i>Organic Electronics</i> , 2017, 49, 64-68.	2.6	6
33	Effect of interfacial dissolution on electromigration failures at metals interface. <i>Journal of Materials Science: Materials in Electronics</i> , 2017, 28, 15149-15153.	2.2	0
34	Study of Sn and SnAgCu Solders Wetting Reaction on Ni/Pd/Au Substrates. <i>Journal of Electronic Materials</i> , 2016, 45, 6079-6085.	2.2	0
35	LED Die-Bonded on the Ag/Cu Substrate by a Sn-BiZn-Sn Bonding System. <i>Journal of Electronic Materials</i> , 2016, 45, 6171-6176.	2.2	1
36	The Efficiency and Reliability Improvement by Utilizing Quartz Airtight Packaging of UVC LEDs. <i>IEEE Transactions on Electron Devices</i> , 2016, 63, 3143-3146.	3.0	19

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37	Anelasticity of GaN Epitaxial Layer in GaN LED. <i>Materials Research Express</i> , 2016, 3, 105026.	1.6	3
38	Effects of nighttime lights by LED and fluorescent lighting on human melatonin. <i>Journal of Ambient Intelligence and Humanized Computing</i> , 2016, 7, 837-844.	4.9	3
39	Experimental Observation and Computer Simulation of Al/Sn Substitution in p-Type Aluminum Nitride-Doped Tin Oxide Thin Film. <i>Journal of Physical Chemistry C</i> , 2016, 120, 4211-4218.	3.1	34
40	Sulfurization Study on the Ag and Ag-Pd Reflectors for GaN-Based LEDs. <i>Journal of Electronic Materials</i> , 2016, 45, 191-196.	2.2	2
41	Etching Three-Dimensional Pattern on Sapphire Substrate by Dynamic Self-Masking Alunogen Compound. <i>ECS Solid State Letters</i> , 2015, 4, R35-R38.	1.4	6
42	Preparation of V-doped AZO thin films and ZnO nanorods on V-doped AZO thin films by hydrothermal process. <i>Journal of Sol-Gel Science and Technology</i> , 2015, 73, 647-654.	2.4	4
43	Study of p-type AlN-doped SnO ₂ thin films and its transparent devices. <i>Applied Surface Science</i> , 2015, 328, 262-268.	6.1	15
44	Internal Quantum Efficiency Enhancement by Relieving Compressive Stress of GaN-Based LED. <i>IEEE Photonics Technology Letters</i> , 2014, 26, 1793-1796.	2.5	7
45	An Electroless-Ag Reflector Developed for High-Brightness White LEDs. <i>Journal of Electronic Materials</i> , 2014, 43, 4602-4609.	2.2	2
46	Nanomeshed Pt(Au) Transparent Contact to p-GaN of Light-Emitting Diode. <i>Journal of Electronic Materials</i> , 2014, 43, 166-169.	2.2	2
47	Interfacial Reactions Between Columnar or Layered Ni(P) Layers and Sn-Ag-Cu Solder. <i>Journal of Electronic Materials</i> , 2014, 43, 277-283.	2.2	5
48	Kinetic Analysis of Spontaneous Whisker Growth on Pre-treated Surfaces with Weak Oxide. <i>Journal of Electronic Materials</i> , 2014, 43, 3290-3295.	2.2	8
49	Warping and stress relaxation of the transferred GaN LED epi-layer on electroplated Cu substrates. <i>Electronic Materials Letters</i> , 2013, 9, 441-444.	2.2	7
50	Epitaxial Cu-Sn bulk crystals grown by electric current. <i>Acta Materialia</i> , 2013, 61, 5713-5719.	7.9	45
51	Electromigration failures at Cu/Sn joint interface. , 2013, , .		0
52	Light Extraction Enhancement of Vertical LED by Growing ZnO Nano-Rods on Tips of Pyramids. <i>IEEE Photonics Technology Letters</i> , 2013, 25, 1774-1777.	2.5	9
53	Mechanism of conductivity degradation of AZO thin film in high humidity ambient. <i>Applied Surface Science</i> , 2013, 282, 32-37.	6.1	22
54	Optical and electrical characterization of transparent conductive Gd-doped AZO thin films. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2013, 210, 600-606.	1.8	2

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55	Effective Charge Number of Cu in Cu-Sn Compound. ECS Solid State Letters, 2012, 1, P73-P75.	1.4	2
56	Formation of carriers in Ti-oxide thin films by substitution reactions. Journal of Applied Physics, 2012, 111, .	2.5	9
57	Pattern-Coverage Effect on Light Extraction Efficiency of GaN LED on Patterned-Sapphire Substrate. Electrochemical and Solid-State Letters, 2012, 15, H72.	2.2	14
58	Electromigration Study on Sn(Cu) Solder/Ni(P) Joint Interfaces. Journal of Electronic Materials, 2012, 41, 3342-3347.	2.2	7
59	Characterization study of GaN-based epitaxial layer and light-emitting diode on nature-patterned sapphire substrate. Journal of Materials Research, 2012, 27, 971-977.	2.6	9
60	Light extraction improvement by forming volcanic crater on N ^a -polar GaN emitting surface. Physica Status Solidi (A) Applications and Materials Science, 2012, 209, 998-1001.	1.8	9
61	Measurement of thermal resistance of first-level Cu substrate used in high-power multi-chips LED package. Microelectronics Reliability, 2012, 52, 855-860.	1.7	23
62	Cross-Interaction Study of Cu/Sn/Pd and Ni/Sn/Pd Sandwich Solder Joint Structures. Journal of Electronic Materials, 2012, 41, 130-137.	2.2	6
63	Ni Interdiffusion Coefficient and Activation Energy in Cu ₆ Sn ₅ . Journal of Electronic Materials, 2012, 41, 172-175.	2.2	20
64	Conductor Formation Through Phase Transformation in Ti-Oxide Thin Films. Journal of Electronic Materials, 2012, 41, 166-171.	2.2	3
65	Growth Mechanism of a Ternary (Cu,Ni) ₆ Sn ₅ Compound at the Sn(Cu)/Ni(P) Interface. Journal of Electronic Materials, 2010, 39, 2382-2386.	2.2	7
66	Study of Interfacial Reactions Between Sn(Cu) Solders and Ni-Co Alloy Layers. Journal of Electronic Materials, 2010, 39, 2403-2411.	2.2	15
67	Electromigration-induced failures at Cu/Sn/Cu flip-chip joint interfaces. Microelectronics Reliability, 2010, 50, 1159-1162.	1.7	33
68	Fabrication of High-Power InGaN-Based Light-Emitting Diode Chips on Pyramidally Patterned Sapphire Substrate. Japanese Journal of Applied Physics, 2010, 49, 020201.	1.5	10
69	Light Output Enhancement of Near UV-LED by Using Ti-Doped ITO Transparent Conducting Layer. IEEE Photonics Technology Letters, 2010, 22, 1443-1445.	2.5	18
70	Retardation of electromigration-induced Ni(P) consumption by an electroless Pd insertion layer. Applied Physics Letters, 2010, 96, .	3.3	20
71	Cross-interaction effect in the Ni/Sn/Cu solder joints. , 2009, , .		0
72	Ag Electromigration Against Electron Flow in Sn ₅ Ag/Cu Solder Bump. Electrochemical and Solid-State Letters, 2009, 12, H445.	2.2	2

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73	Surface oxidation of molten Sn(Ag, Ni, In, Cu) alloys. Jom, 2009, 61, 52-58.	1.9	8
74	Reflectivity and Abnormal Absorption at ITO/Al Interface. Journal of Electronic Materials, 2009, 38, 108-112.	2.2	2
75	Dewetting Retardation on Ag/Cu Coated Light Emitting Diode Lead Frames During the Solder Immersion Process. Journal of Electronic Materials, 2009, 38, 2270-2274.	2.2	0
76	Electromigration-Induced Failure of Ni/Cu Bilayer Bond Pads Joined with Sn(Cu) Solders. Journal of Electronic Materials, 2009, 38, 2573-2578.	2.2	8
77	Cross-Interaction Between Au/Sn and Cu/Sn Interfacial Reactions. Journal of Electronic Materials, 2009, 38, 2257-2263.	2.2	15
78	Electromigration-induced failures at Cu/Sn/Cu flip-chip joint interfaces. , 2009, , .		1
79	Electromigration Studies of Cu/Carbon Nanotube Composite Interconnects Using Blech Structure. IEEE Electron Device Letters, 2008, 29, 1001-1003.	3.9	52
80	Diamond Heat Spreader Layer for High-Power Thin-GaN Light-Emitting Diodes. IEEE Photonics Technology Letters, 2008, 20, 845-847.	2.5	36
81	Copper/carbon nanotube composite interconnect for enhanced electromigration resistance. , 2008, , .		13
82	Stress relaxation in GaN by transfer bonding on Si substrates. Applied Physics Letters, 2007, 91, 251114.	3.3	38
83	Flip-Chip Assembled GaAs pHEMT \$Ka\$-Band Oscillator. IEEE Microwave and Wireless Components Letters, 2007, 17, 67-69.	3.2	2
84	Coupling effect in Pt/Sn/Cu sandwich solder joint structures. Acta Materialia, 2007, 55, 3327-3335.	7.9	24
85	The Effect of Thermomigration on Phase Coarsening in a Eutectic SnPb Alloy. Journal of Electronic Materials, 2007, 36, 1495-1500.	2.2	3
86	Fabrication of Mg-Based Intermetallic Compounds by Liquid Electromigration. Journal of Electronic Materials, 2007, 36, 1489-1494.	2.2	2
87	Fabricating a Hollow Optical Waveguide for Optical Communication Applications. Journal of Microelectromechanical Systems, 2006, 15, 584-587.	2.5	4
88	Effect of Cu additives on Sn whisker formation of Sn(Cu) finishes. Journal of Electronic Materials, 2006, 35, 1885-1891.	2.2	17
89	Study of wetting reaction between eutectic AuSn and Au foil. Journal of Electronic Materials, 2006, 35, 28-34.	2.2	21
90	Kinetic analysis of the interfacial reactions in Ni/Sn/Cu sandwich structures. Journal of Electronic Materials, 2006, 35, 1955-1960.	2.2	47

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91	Study of wetting reaction between eutectic AuSn and Au foil. Journal of Electronic Materials, 2006, 35, 353-359.	2.2	5
92	Prevention of electromigration-induced Cu pad dissolution by using a high electromigration-resistance ternary Cu-Ni-Sn layer. Scripta Materialia, 2006, 54, 661-664.	5.2	26
93	Nanothick Layer Transfer of Hydrogen-implanted Wafer Using Polysilicon Sacrificial Layer. Materials Research Society Symposia Proceedings, 2006, 921, 1.	0.1	0
94	Study of electromigration-induced Cu consumption in the flip-chip Sn-Cu solder bumps. Journal of Applied Physics, 2006, 100, 083702.	2.5	76
95	Study of Interfacial Reactions by Ni/Sn5Ag/Cu Sandwich Structure. , 2006, , .		0
96	Current density dependence of electromigration-induced flip-chip Cu pad consumption. Applied Physics Letters, 2006, 89, 101906.	3.3	25
97	Electromigration Studies of Sn(Cu) and Sn(Ni) Alloy Stripes. Journal of Materials Research, 2005, 20, 2072-2079.	2.6	13
98	Fabricating low-loss hollow optical waveguides via amorphous silicon bonding using dilute KOH solvent. IEEE Photonics Technology Letters, 2005, 17, 2592-2594.	2.5	8
99	An effective Cu-Sn barrier layer for Au bump used in optoelectronic devices. Journal of Materials Research, 2004, 19, 2536-2540.	2.6	5
100	Correlation between interfacial reactions and mechanical strengths of Sn(Cu)/Ni(P) solder bumps. Journal of Electronic Materials, 2004, 33, 1130-1136.	2.2	25
101	Effect of Cu content on interfacial reactions between Sn(Cu) alloys and Ni/Ti thin-film metallization. Journal of Electronic Materials, 2003, 32, 1214-1221.	2.2	28
102	Study of interaction between Cu-Sn and Ni-Sn interfacial reactions by Ni-Sn3.5Ag-Cu sandwich structure. Journal of Electronic Materials, 2003, 32, 1303-1309.	2.2	120
103	Electromigration studies on Sn(Cu) alloy lines. Journal of Electronic Materials, 2003, 32, 1515-1522.	2.2	11
104	Prevention of spalling by the self-formed reaction barrier layer on controlled collapse chip connections under bump metallization. Journal of Electronic Materials, 2003, 32, L1-L3.	2.2	23
105	Electromigration in eutectic SnPb solder lines. Journal of Applied Physics, 2001, 89, 4332-4335.	2.5	85
106	Effect of current crowding on vacancy diffusion and void formation in electromigration. Applied Physics Letters, 2000, 76, 988-990.	3.3	141
107	Electromigration in Sn-Pb solder strips as a function of alloy composition. Journal of Applied Physics, 2000, 88, 5703-5709.	2.5	146
108	Microstructure-electromigration correlation in a thin stripe of eutectic SnPb solder stressed between Cu electrodes. Applied Physics Letters, 1999, 75, 58-60.	3.3	159

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109	Morphology of wetting reactions of SnPb alloys on Cu as a function of alloy composition. Journal of Materials Research, 1998, 13, 37-44.	2.6	54
110	Size dependent dewetting and sideband reaction of eutectic SnPb on Au/Cu/Cr multilayered thin film. Journal of Materials Research, 1998, 13, 1103-1106.	2.6	8
111	Spalling suppression by Sn-3.5Ag incorporated with Cu particles. , 0, , .		0
112	Metallic wafer and chip bonding for led packaging. , 0, , .		5
113	Electromigration studies on Sn(Cu) alloy lines. , 0, , .		0