Tao Hang

List of Publications by Year
in descending order

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105 papers	2,752 citations	27 h-index	48 g-index
		201385	205818

105 all docs	105 docs citations	105 times ranked	3439 citing authors

#	Article	IF	Citations
1	Battery-free, skin-interfaced microfluidic/electronic systems for simultaneous electrochemical, colorimetric, and volumetric analysis of sweat. Science Advances, 2019, 5, eaav3294.	4.7	497
2	Super-hydrophobic nickel films with micro-nano hierarchical structure prepared by electrodeposition. Applied Surface Science, 2010, 256, 2400-2404.	3.1	163
3	Preparation of super-hydrophobic Cu/Ni coating with micro-nano hierarchical structure. Materials Letters, 2012, 67, 327-330.	1.3	103
4	Sweat-activated biocompatible batteries for epidermal electronic and microfluidic systems. Nature Electronics, 2020, 3, 554-562.	13.1	99
5	Characterization of nickel nanocones routed by electrodeposition without any template. Nanotechnology, 2008, 19, 035201.	1.3	93
6	Electrochemical impedance spectroscopy analysis for lithium-ion battery using Li4Ti5O12 anode. Journal of Power Sources, 2013, 222, 442-447.	4.0	92
7	Hollow nitrogen-doped carbon spheres as efficient and durable electrocatalysts for oxygen reduction. Chemical Communications, 2014, 50, 9473-9476.	2.2	88
8	Effect of Mg doping on the hydrogen-sensing characteristics of ZnO thin films. Sensors and Actuators B: Chemical, 2011, 160, 266-270.	4.0	78
9	Lotus leaf-like dual-scale silver film applied as a superhydrophobic and self-cleaning substrate. Chemical Communications, 2014, 50, 8405-8407.	2.2	54
10	Preparation and characterization of nickelâ€“cobalt alloy nanostructures array fabricated by electrodeposition. CrystEngComm, 2014, 16, 6937.	1.3	52
11	A facile process for preparing superhydrophobic nickel films with stearic acid. Surface and Coatings Technology, 2013, 231, 88-92.	2.2	50
12	Effects of process parameters on bondability in ultrasonic ball bonding. Scripta Materialia, 2006, 54, 293-297.	2.6	47
13	High-adhesive superhydrophobic 3D nanostructured silver films applied as sensitive, long-lived, reproducible and recyclable SERS substrates. Nanoscale, 2014, 6, 9720.	2.8	45
14	Growth Mechanism and Field Emission Properties of Nickel Nanocones Array Fabricated by One-Step Electrodeposition. Journal of the Electrochemical Society, 2010, 157, D624.	1.3	44
15	Transient Lightâ€Emitting Diodes Constructed from Semiconductors and Transparent Conductors that Biodegrade Under Physiological Conditions. Advanced Materials, 2019, 31, e1902739.	11.1	43
16	Electrodeposition and characterization of copper nanocone structures. CrystEngComm, 2015, 17, 868-876.	1.3	41
17	Silicon composite thick film electrodeposited on a nickel micro-nanocones hierarchical structured current collector for lithium batteries. Journal of Power Sources, 2013, 222, 503-509.	4.0	39
18	High-performance Si-based 3D Cu nanostructured electrode assembly for rechargeable lithium batteries. Journal of Materials Chemistry A, 2015, 3, 11912-11919.	5.2	36

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19	Structural control of a cobalt nanocone array grown by directional electrodeposition. CrystEngComm, 2010, 12, 2799.	1.3	35
20	Electrodeposited nanostructured cobalt film and its dual modulation of both superhydrophobic property and adhesiveness. Applied Surface Science, 2015, 324, 319-323.	3.1	35
21	Long lasting behavior of Gd2O2S:Eu3+ phosphor synthesized by hydrothermal routine. Materials Chemistry and Physics, 2008, 107, 142-147.	2.0	34
22	Electrochemical impedance analysis of electrodeposited Siâ€"Oâ€"C composite thick film on Cu microcones-arrayed current collector for lithium ion battery anode. Journal of Power Sources, 2014, 256, 226-232.	4.0	34
23	Controlled crystallization of glassâ€"ceramics with two nucleating agents. Materials Characterization, 2009, 60, 1529-1533.	1.9	31
24	Effect of a trace of Cr on intermetallic compound layer for tinâ€"zinc lead-free solder joint during aging. Journal of Alloys and Compounds, 2009, 470, 429-433.	2.8	31
25	Morphologies and wetting properties of copper film with 3D porous micro-nano hierarchical structure prepared by electrochemical deposition. Applied Surface Science, 2016, 372, 7-12.	3.1	31
26	Growth behavior of tin whisker on SnAg microbump under compressive stress. Scripta Materialia, 2018, 147, 114-118.	2.6	30
27	Behaviors of Chloride Ions in Methanesulfonic Acid Bath for Copper Electrodeposition of Through-Silicon-Via. Journal of the Electrochemical Society, 2013, 160, D146-D149.	1.3	29
28	Behavior of intermetallics formation and evolution in Agâ€"8Auâ€"3Pd alloy wire bonds. Journal of Alloys and Compounds, 2014, 588, 622-627.	2.8	28
29	Performances of CaSiO3 ceramic sintered by Spark plasma sintering. Materials Characterization, 2008, 59, 256-260.	1.9	26
30	Influence of PEG molecular weight on morphology, structure and wettability of electroless deposited Cuâ€"Niâ€"P films. Applied Surface Science, 2012, 258, 8814-8818.	3.1	26
31	Bioinspired Multifunctional Au Nanostructures with Switchable Adhesion. Langmuir, 2015, 31, 10850-10858.	1.6	26
32	Design of thermally stable insulation film by radical grafting poly(methylacrylic acid) on silicon surface. Applied Surface Science, 2019, 464, 627-635.	3.1	26
33	Electrodeposition of High Density Silver Nanosheets with Controllable Morphologies Served as Effective and Reproducible SERS Substrates. Langmuir, 2016, 32, 3385-3392.	1.6	24
34	Construction of liquid metal-based soft microfluidic sensors via soft lithography. Journal of Nanobiotechnology, 2022, 20, .	4.2	24
35	Low-Temperature Solid State Bonding of Sn and Nickel Micro Cones for Micro Interconnection. ECS Solid State Letters, 2012, 1, P7-P10.	1.4	23
36	Linear Sweep Voltammetric Study on the Copper Electrodeposition of Though-Silicon-Vias. Journal of the Electrochemical Society, 2014, 161, D349-D352.	1.3	23

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37	Study on the Adhesion Between Epoxy Molding Compound and Nanocone-Arrayed Pd Preplated Leadframes. Journal of Electronic Materials, 2007, 36, 1594-1598.	1.0	21
38	Three-Dimensional Hierarchical Nanostructured Cu/Niâ€“Co Coating Electrode for Hydrogen Evolution Reaction in Alkaline Media. Nano-Micro Letters, 2015, 7, 347-352.	14.4	21
39	Effects of 2-mercaptopyridine and Janus Green B as levelers on electrical resistance of electrodeposited copper thin film for interconnects. Thin Solid Films, 2019, 677, 39-44.	0.8	20
40	Highly durable non-sticky silver film with a microball-nanosheet hierarchical structure prepared by chemical deposition. Chemical Communications, 2013, 49, 10391-10393.	2.2	19
41	Applicable Superamphiphobic Ni/Cu Surface with High Liquid Repellency Enabled by the Electrochemical-Deposited Dual-Scale Structure. ACS Applied Materials & Interfaces, 2019, 11, 11106-11111.	4.0	19
42	Structure and wettability control of Cuâ€“Niâ€“P alloy synthesized by electroless deposition. Journal of Alloys and Compounds, 2012, 538, 144-152.	2.8	17
43	Electrochemical deposition of Fe 3 O 4 nanoparticles and flower-like hierarchical porous nanoflakes on 3D Cu-cone arrays for rechargeable lithium battery anodes. Materials and Design, 2017, 121, 321-334.	3.3	17
44	Anti-wetting Cu/Cr coating with micro-posts array structure fabricated by electrochemical approaches. Applied Surface Science, 2013, 271, 369-372.	3.1	16
45	Tunable resistance switching in solution processed chromium-doped strontium titanate nanoparticles films. Journal of Colloid and Interface Science, 2017, 494, 178-184.	5.0	16
46	Electrodeposited three-dimensional porous Siâ€“Oâ€“C/Ni thick film as high performance anode for lithium-ion batteries. Journal of Power Sources, 2014, 272, 794-799.	4.0	15
47	Solid state diffusion between Sn and Cu microcones on Cu microcones. Journal of Alloys and Compounds, 2014, 582, 408-413.	2.8	15
48	Diffusion barrier performance of W/Taâ€“Wâ€“N double layers for Cu metallization. Microelectronic Engineering, 2006, 83, 423-427.	1.1	14
49	Microstructure evolution of Agâ€“8Auâ€“3Pd alloy wire during electromigration. Materials Characterization, 2015, 110, 44-51.	1.9	14
50	One-Step Dipping Method for Covalently Grafting Polymer Films onto a Si Surface from Aqueous Media. Langmuir, 2016, 32, 8709-8716.	1.6	14
51	Grafting of PMMA brushes layer on Cu surface to create a stable superhydrophobic surface. Applied Surface Science, 2016, 386, 309-318.	3.1	14
52	Effects of Niâ€“W(Au) coated Cu microcones on the bonding interfaces. Applied Surface Science, 2015, 353, 774-780.	3.1	13
53	Electroless Silver Coating on Copper Microcones for Low-Temperature Solid-State Bonding. Journal of Electronic Materials, 2015, 44, 4516-4524.	1.0	13
54	Fabrication of superamphiphobic Cu surfaces using hierarchical surface morphology and fluorocarbon attachment facilitated by plasma activation. Applied Surface Science, 2019, 464, 140-145.	3.1	12

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55	Structural effect of inhibitors on adsorption and desorption behaviors during copper electroplating for through-silicon vias. Electrochimica Acta, 2021, 372, 137907.	2.6	12
56	Formation of SnAg solder bump by multilayer electroplating. Microelectronic Engineering, 2013, 106, 33-37.	1.1	11
57	Effect of electroplating layer structure on shear property and microstructure of multilayer electroplated Snâ€“3.5Ag solder bumps. Microelectronics Reliability, 2013, 53, 321-326.	0.9	11
58	Competitive Effect of Leveler's Electrochemical Behavior and Impurity on Electrical Resistance of Electroplated Copper. Journal of the Electrochemical Society, 2019, 166, D577-D582.	1.3	11
59	Effect of W addition on the electroless deposited NiP(W) barrier layer. Applied Surface Science, 2013, 282, 632-637.	3.1	10
60	Study of free air ball formation in Agâ€“8Auâ€“3Pd alloy wire bonding. Microelectronics Reliability, 2014, 54, 2550-2554.	0.9	10
61	Wetting process of copper filling in through silicon vias. Applied Surface Science, 2015, 359, 736-741.	3.1	10
62	Transient and Biocompatible Resistive Switching Memory Based on Electrochemicallyâ€Deposited Zinc Oxide. Advanced Electronic Materials, 2021, 7, 2100322.	2.6	10
63	Ultralow Set Voltage and Enhanced Switching Reliability for Resistive Random-Access Memory Enabled by an Electrodeposited Nanocone Array. ACS Applied Materials & Interfaces, 2022, 14, 25710-25721.	4.0	10
64	Covalent Grafting of Tethered Homopolymer Film on p-Si(100). Langmuir, 2016, 32, 3746-3753.	1.6	9
65	A View on Annealing Behavior of Cu-Filled Through-Silicon Vias (TSV). ECS Journal of Solid State Science and Technology, 2016, 5, P389-P392.	0.9	9
66	Three-dimensional porous nickel supported Snâ€“Oâ€“C composite thin film as anode material for lithium-ion batteries. RSC Advances, 2015, 5, 31275-31281.	1.7	8
67	Effects of Sn grain size on intermetallic compounds formation in 5ÂÂµm diameter Cu/Sn pillar bumps. Journal of Materials Science: Materials in Electronics, 2018, 29, 19484-19490.	1.1	8
68	Facile synthesis of petal-like nanocrystalline Co3O4 film using direct high-temperature oxidation. Journal of Materials Science, 2019, 54, 7922-7930.	1.7	8
69	The influence of non-uniform copper oxide layer on tin whisker growth and tin whisker growth behavior in SnAg microbumps with small diameter. Materials Letters, 2020, 258, 126773.	1.3	8
70	Covalently formation of insulation and barrier layers in high aspect ratio TSVs. Applied Surface Science, 2022, 573, 151588.	3.1	8
71	Study on the behaviors of Cu filling in special through-silicon-vias by the simulation of electric field distribution. Microelectronic Engineering, 2014, 116, 1-5.	1.1	7
72	Low-Temperature Insertion Bonding using Electroless Cu-Co-P Micro-Cones Array with Controllable Morphology. Electronic Materials Letters, 2021, 17, 459-470.	1.0	7

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73	Communicationâ€"Fabrication of Vertical Nanotwinned Copper with (220) Texture by Direct Current Electrodeposition. Journal of the Electrochemical Society, 2021, 168, 082506.	1.3	7
74	Solâ€"Gel-Derived Biodegradable Er-Doped ZnO/Polyethylene Glycol Nanoparticles for Cell Imaging. ACS Applied Nano Materials, 2022, 5, 7103-7112.	2.4	7
75	Enhanced Ni3Sn4 nucleation and suppression of metastable NiSn3 in the solid state interfacial reactions between Sn and cone-structured Ni. CrystEngComm, 2013, 15, 10490.	1.3	6
76	A low-temperature solid-state bonding method based on copper bump coated with nickel microcones and silver buffer. Materials Letters, 2016, 181, 165-168.	1.3	6
77	Diffusion barrier effect of Ta/Ti bilayer in organic dielectric/Cu interconnects. Thin Solid Films, 2018, 653, 113-118.	0.8	6
78	Influence of intercolony boundary on corrosion behavior of electrodeposited Niâ€"W alloy for electronic connector applications. Materials Chemistry and Physics, 2020, 239, 121989.	2.0	6
79	A carbon mixed amorphous-TiSx separator coating for lithium sulfur batteries. Materials Chemistry and Physics, 2021, 258, 123923.	2.0	6
80	Effects of W contents on the solid-state interfacial reactions of Sn/Co-W. Journal of Materials Science, 2022, 57, 1403-1415.	1.7	6
81	Quasiâ€Periodical 3D Hierarchical Silver Nanosheets with Subâ€10 nm Nanogap Applied as an Effective and Applicable SERS Substrate. Advanced Materials Interfaces, 2015, 2, 1500359.	1.9	5
82	Rapid Determination of the Electrodeposition Potential for Cu Superfilling Using a Nanocones Array Structured Electrode. Journal of the Electrochemical Society, 2018, 165, D339-D343.	1.3	5
83	Study on the relationship between Cu protrusion behavior and stresses evolution in the through-silicon via characterized by in-situ Î¼-Raman spectroscopy. Microelectronics Reliability, 2020, 115, 113949.	0.9	5
84	The Evolution of Microstructure and Resistance in Electroplated Copper Films by Linear Integrated Laser Scanning Annealing. Electronic Materials Letters, 2021, 17, 207-214.	1.0	5
85	Wetting process of electrolyte in high density Cu/Sn micro-bumps electrodepositing. Applied Surface Science, 2011, 257, 3723-3727.	3.1	4
86	IMC Growth at the Interface of Snâ€"2.0Agâ€"2.5Zn Solder Joints with Cu, Ni, and Niâ€"W Substrates. Journal of Electronic Materials, 2014, 43, 4119-4125.	1.0	4
87	Formation and growth of interfacial intermetallic layers of Snâ€"8Znâ€"3Biâ€"0.3Cr on Cu, Ni and Niâ€"W substrates. Microelectronics Reliability, 2014, 54, 245-251.	0.9	4
88	Grafting and properties of a porous poly(methyl methacrylate) film on a silicon surface by a oneâ€step dipping method. Journal of Applied Polymer Science, 2017, 134, 44930.	1.3	4
89	Fluorineâ€Free Nanoporous Lowâ€k Dielectric Film Covalently Grafted on Si via Aryldiazonium Chemistry. Advanced Materials Interfaces, 0, , 2101127.	1.9	4
90	Electroless plating copper cones on leadframe to improve the adhesion with epoxy molding compound. , 2012, , .		3

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91	Chemical metallization of ultrathin polymer insulation film for through-silicon via application. Thin Solid Films, 2021, 734, 138842.	0.8	3
92	Two-Step Electrodeposited 3D Ni Nanocone Supported Au Nanoball Arrays as SERS Substrate. Journal of the Electrochemical Society, 2020, 167, 142502.	1.3	3
93	Application of electrodeposited Cu-metal nanoflake structures as 3D current collector in lithium-metal batteries. Nanotechnology, 2022, 33, 245406.	1.3	3
94	Electroless Grafting of Polymer Insulation Layers in Through-Silicon Vias. ECS Journal of Solid State Science and Technology, 2019, 8, P591-P595.	0.9	2
95	In situ synthesis of a highly cross-linked polymethacrylimide ultrathin film on a silicon wafer with applicable dielectric, thermal, and mechanical properties. Thin Solid Films, 2020, 711, 138308.	0.8	2
96	The performance and degradation process of a greenly synthesized transient heterojunction diode. Thin Solid Films, 2020, 712, 138312.	0.8	2
97	Impurity diffusion behavior study of electroplated copper films annealed by linear shaping laser mobile scanning system. Materials Letters, 2021, 292, 129446.	1.3	2
98	Low temperature bonding with metallic micro-cones for 3D integration. , 2012, , .		1
99	Study of gold wire bonding on 0.1 μm soft gold film substrate. , 2014, , .		1
100	The Influence of Leveler on the Impurity Behavior of Electroplated Cu Films During Laser Annealing. Journal of the Electrochemical Society, 2021, 168, 062504.	1.3	1
101	Development of robust amphiphobic hierarchical structure on polymer substrate by thermal imprinting and sputter etching. Surface and Coatings Technology, 2021, 427, 127804.	2.2	1
102	Liner Sweep Voltammetry Electroplating Method to Synthesize Large Monocrystalline Cu Cones for Interconnection. Electronic Materials Letters, 2022, 18, 27-35.	1.0	1
103	Fast Determination of the Potential for Cu Superfilling Using a Nanoporous Electrode. , 2019, , .		0
104	Grafting of a porous polymethyl methacrylate (PMMA) film on the silicon surface with low dielectric constant. , 2020, , .		0
105	Effect of leveler on electrical resistance and microstructural of electroplated copper after heat treatment. , 2021, , .		0