Shih-kang Lin

List of Publications by Year
in descending order

89 papers	1,734 citations	236612 25 h-index	315357 38 g-index
96 all docs	96 docs citations	96 times ranked	1645 citing authors

#	Article	IF	Citations
1	Ab initio study of sodium intercalation into disordered carbon. Journal of Materials Chemistry A, 2015, 3, 9763-9768.	5.2	193
2	Phase Diagrams of Pb-Free Solders and their Related Materials Systems. Journal of Materials Science: Materials in Electronics, 2006, 18, 19-37.	1.1	83
3	Atomistic Structure and Ab Initio Electrochemical Properties of Li₄Ti₅O₁₂Defect Spinel for Li Ion Batteries. Journal of the Electrochemical Society, 2014, 161, A439-A444.	1.3	67
4	Interfacial Reactions in Cu/Ga and Cu/Ga/Cu Couples. Journal of Electronic Materials, 2014, 43, 204-211.	1.0	62
5	Nano-volcanic Eruption of Silver. Scientific Reports, 2016, 6, 34769.	1.6	60
6	Low temperature sintering of fully inorganic all-solid-state batteries â€“ Impact of interfaces on full cell performance. Journal of Power Sources, 2021, 482, 228905.	4.0	58
7	Effective suppression of interfacial intermetallic compound growth between Snâ€“58wt.% Bi solders and Cu substrates by minor Ga addition. Journal of Alloys and Compounds, 2014, 586, 319-327.	2.8	55
8	Effects of Ti addition on the microstructure, mechanical properties and electrical resistivity of eutectic Sn58Bi alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 744, 560-569.	2.6	48
9	Sn-3.0Ag-0.5Cu/Sn-58Bi composite solder joint assembled using a low-temperature reflow process for PoP technology. Materials and Design, 2019, 183, 108144.	3.3	47
10	Thermodynamic description of the Cuâ€“Sn system. Journal of Materials Research, 2007, 22, 3158-3165.	1.2	42
11	Consideration of kinetics on intermetallics formation in solid-solution high entropy alloys. Acta Materialia, 2020, 195, 71-80.	3.8	40
12	Oneâ€Step Synthesis of Highly Oxygenâ€Deficient Lithium Titanate Oxide with Conformal Amorphous Carbon Coating as Anode Material for Lithium Ion Batteries. Advanced Materials Interfaces, 2017, 4, 1700329.	1.9	38
13	Phase equilibria of Snâ€“Sbâ€“Cu system. Materials Chemistry and Physics, 2012, 132, 703-715.	2.0	36
14	The mechanism of the sodiation and desodiation in Super P carbon electrode for sodium-ion battery. Journal of Power Sources, 2017, 340, 14-21.	4.0	36
15	Study of LiCoO₂/Li₇La₃Zr₂O₁₂:Ta Interface Degradation in All-Solid-State Lithium Batteries. ACS Applied Materials & Interfaces, 2022, 14, 11288-11299.	4.0	36
16	Ab initio phase stability and electronic conductivity of the doped-Li4Ti5O12 anode for Li-ion batteries. Acta Materialia, 2019, 175, 196-205.	3.8	35
17	The newly developed Snâ€“Biâ€“Zn alloy with a low melting point, improved ductility, and high ultimate tensile strength. Materialia, 2019, 6, 100300.	1.3	35
18	Formation of solid-solution Cu-to-Cu joints using Ga solder and Pt under bump metallurgy for three-dimensional integrated circuits. Electronic Materials Letters, 2015, 11, 687-694.	1.0	32

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19	CALPHAD-assisted morphology control of manganese sulfide inclusions in free-cutting steels. Journal of Alloys and Compounds, 2019, 779, 844-855.	2.8	32
20	Improvements in mechanical properties of Snâ€“Bi alloys with addition of Zn and In. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 813, 141131.	2.6	31
21	The electromigration effect revisited: non-uniform local tensile stress-driven diffusion. Scientific Reports, 2017, 7, 3082.	1.6	30
22	Mechanical deformation-induced Sn whiskers growth on electroplated films in the advanced flexible electronic packaging. Journal of Materials Research, 2007, 22, 1975-1986.	1.2	29
23	Chargeâ€Transfer Kinetics of The Solidâ€Electrolyte Interphase on Li₄Ti₅O₁₂ Thinâ€Film Electrodes. ChemSusChem, 2020, 13, 4041-4050.	3.6	28
24	Interfacial reactions in the Snâ€“20 at.% In/Cu and Snâ€“20 at.% In/Ni couples at 160 Â°C. Journal of Materials Research, 2006, 21, 1712-1717.	1.2	27
25	High-strength and thermal stable Cu-to-Cu joint fabricated with transient molten Ga and Ni under-bump-metallurgy. Journal of Alloys and Compounds, 2017, 702, 561-567.	2.8	26
26	Liquidus Projection and Solidification of the Sn-In-Cu Ternary Alloys. Journal of Electronic Materials, 2008, 37, 498-506.	1.0	25
27	Ab Initio-Aided Sensitizer Design for Mn⁴⁺-Activated Mg₂TiO₄ as an Ultrabright Fluoride-Free Red-Emitting Phosphor. Chemistry of Materials, 2018, 30, 1769-1775.	3.2	25
28	On the formation mechanism of solid-solution Cu-to-Cu joints in the Cu/Ni/Ga/Ni/Cu system. Materials Characterization, 2018, 137, 14-23.	1.9	25
29	Geometric and Electronic Properties of Edge-decorated Graphene Nanoribbons. Scientific Reports, 2014, 4, 6038.	1.6	24
30	Microstructure Development of Mechanical-Deformation-Induced Sn Whiskers. Journal of Electronic Materials, 2007, 36, 1732-1734.	1.0	21
31	Electromigration Effects upon Interfacial Reactions in Flip-Chip Solder Joints. Materials Transactions, 2004, 45, 661-665.	0.4	20
32	250 Â°C isothermal section of ternary Sn-In-Cu phase equilibria. Journal of Materials Research, 2009, 24, 2628-2637.	1.2	20
33	Electric current-induced abnormal Cu/Î³-InSn4 interfacial reactions. Journal of Materials Research, 2006, 21, 3065-3071.	1.2	19
34	Exploring effective charge in electromigration using machine learning. MRS Communications, 2019, 9, 567-575.	0.8	18
35	Ab initio-aided CALPHAD thermodynamic modeling of the Sn-Pb binary system under current stressing. Scientific Reports, 2013, 3, 2731.	1.6	17
36	Effects of temperature on interfacial reactions in Î³â€“InSn4/Ni couples. Journal of Materials Research, 2006, 21, 1161-1166.	1.2	15

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37	Phase transformation and microstructural evolution in solder joints. Jom, 2007, 59, 39-43.	0.9	14
38	Instability of Ga-substituted Li₇La₃Zr₂O₁₂ toward metallic Li. Journal of Materials Chemistry A, 2022, 10, 10998-11009.	5.2	14
39	Using the high-temperature phase transition of iron sulfide minerals as an indicator of fault slip temperature. Scientific Reports, 2019, 9, 7950.	1.6	13
40	Recent Developments in Using Computational Materials Design for High-Performance Li4Ti5O12 Anode Material for Lithium-Ion Batteries. Multiscale Science and Engineering, 2019, 1, 87-107.	0.9	13
41	A Computational Thermodynamics-Assisted Development of Sn-Bi-In-Ga Quaternary Alloys as Low-Temperature Pb-Free Solders. Materials, 2019, 12, 631.	1.3	13
42	Ab Initio Exploration of Co-Free Layered Oxides as Cathode Materials in Li Ion Batteries. ACS Sustainable Chemistry and Engineering, 2021, 9, 11342-11350.	3.2	13
43	Formation of alternating interfacial layers in Au-12Ge/Ni joints. Scientific Reports, 2015, 4, 4557.	1.6	12
44	A Critical Review on the Electromigration Effect, the Electroplastic Effect, and Perspectives on the Effects of Electric Current Upon Alloy Phase Stability. Jom, 2019, 71, 3094-3106.	0.9	11
45	Abnormal spalling phenomena in the Sn-0.7Cu/Au/Ni/SUS304 interfacial reactions. Journal of Materials Research, 2010, 25, 2278-2286.	1.2	10
46	Ab initio energetics of charge compensating point defects: A case study on MgO. Computational Materials Science, 2013, 73, 41-55.	1.4	10
47	Interfacial reactions in Snâ€“20Inâ€“2.8Ag/Cu couples. Materials Chemistry and Physics, 2013, 142, 268-275.	2.0	10
48	Electromigration effect upon single- and two-phase Ag-Cu alloy strips: An in situ study. Scripta Materialia, 2019, 173, 134-138.	2.6	10
49	Defects in Li₄Ti₅O₁₂induced by carbon deposition: an analysis of unidentified bands in Raman spectra. Physical Chemistry Chemical Physics, 2019, 21, 20757-20763.	1.3	10
50	Reactivity and thermo-physical properties of MnO-modified CaO-Al2O3-based mold fluxes for advanced high-strength steels. Journal of Materials Research and Technology, 2020, 9, 12091-12101.	2.6	10
51	Interfacial reactions in the pb-free composite solders with indium layers. Journal of Electronic Materials, 2006, 35, 72-75.	1.0	9
52	Strong coupling effects during Cu/In/Ni interfacial reactions at 280ÂÂ°C. Intermetallics, 2015, 58, 91-97.	1.8	9
53	Integrated investigation of the Li4Ti5O12 phase stability. Ionics, 2018, 24, 707-713.	1.2	9
54	Reactive wafer bonding with nanoscale Ag/Cu multilayers. Scripta Materialia, 2020, 184, 1-5.	2.6	8

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55	Mechanical and thermodynamic data-driven design of Al-Co-Cr-Fe-Ni multi-principal element alloys. Materials Today Communications, 2021, 26, 102096.	0.9	8
56	Electrochemical properties of surface-modified hard carbon electrodes for lithium-ion batteries. Electrochimica Acta, 2021, 379, 138175.	2.6	8
57	B2-strengthened Al-Co-Cr-Fe-Ni high entropy alloy with high ductility. Materials Letters, 2022, 325, 132828.	1.3	8
58	Effects of zinc on the interfacial reactions of tinâ€“indium solder joints with copper. Journal of Materials Science, 2014, 49, 3805-3815.	1.7	7
59	Phase diagrams of Pb-free solders and their related materials systems. , 2006, , 19-37.		7
60	Formation of a Diffusion Barrier-Like Intermetallic Compound to Suppress the Formation of Micro-voids at the Sn-0.7Cu/Cu Interface by Optimal Ga Additions. Jom, 2020, 72, 3538-3546.	0.9	6
61	Exploring Dielectric Constant and Dissipation Factor of LTCC Using Machine Learning. Materials, 2021, 14, 5784.	1.3	6
62	PEMFC Nanoparticle Catalyst Dealloying from Kinetic Monte Carlo Simulations. ECS Transactions, 2013, 50, 1643-1649.	0.3	5
63	On the Schmid's Law for the electric current-induced deformation: An in situ EBSD study. International Journal of Mechanical Sciences, 2020, 168, 105295.	3.6	5
64	Effect of Low Bi Content on Reliability of Sn-Bi Alloy Joints Before and After Thermal Aging. Jom, 2022, 74, 1751-1759.	0.9	5
65	Reaction evolution in Snâ€“20.0 wt% Inâ€“2.8 wt% Ag/Ni couples. Journal of Materials Research, 2013, 28, 3257-3260.	1.2	4
66	Solid-state reactions between Sn-20.0 wt.%In-x wt.%Zn solders and Ag and Ni substrates. Materials Chemistry and Physics, 2015, 154, 60-65.	2.0	4
67	Progress in High-Entropy Alloys. Jom, 2019, 71, 3417-3418.	0.9	4
68	Phase equilibria and thermodynamic assessment of the Moâ€“Nb-Re ternary system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2020, 70, 101797.	0.7	4
69	High-strength Snâ€“Bi-based low-temperature solders with high toughness designed via high-throughput thermodynamic modelling¹. Science and Technology of Welding and Joining, 2022, 27, 572-578.	1.5	4
70	Clarification on the Gassing Behavior of Carbonâ€Coated Li₄Ti₅O₁₂ at Elevated Temperature: Importance of Coating Coverage. Batteries and Supercaps, 2022, 5, .	2.4	3
71	Computational thermodynamicsâ€assisted design of nitrateâ€based phase change materials for waste heat recovery. International Journal of Energy Research, 2022, 46, 14452-14461.	2.2	3
72	A novel mechanism of silver microflakes sinter joining. , 2016, , .		2

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73	Thin-Film Photoluminescent Properties and the Atomistic Model of Mg2TiO4 as a Non-rare Earth Matrix Material for Red-Emitting Phosphor. Journal of Electronic Materials, 2016, 45, 6214-6221.	1.0	2
74	Interfacial reactions of 68Inâ€“32Bi, 50Inâ€“50Bi and 33Inâ€“67Bi low melting alloys on Cu substrates. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 759, 506-513.	2.6	2
75	Ga-based submicron particle and applications. , 2018, , .		1
76	Chargeâ€Transfer Kinetics of the Solidâ€“Electrolyte Interphase on Li 4 Ti 5 O 12 Thinâ€Film Electrodes. ChemSusChem, 2020, 13, 3944-3944.	3.6	1
77	Simulations of domain pattern in leadâ€“titanate by molecular dynamics simulations aided q-state Potts model. Computational Materials Science, 2015, 110, 221-226.	1.4	0
78	A novel approach for forming ductile Cu-to-Cu interconnection. , 2016, , .		0
79	Revisit the electromigration effect: In situ synchrotron X-ray and scanning electron microscopy and ab initio calculations. , 2017, , .		0
80	Mechanical properties of Sn-Bi-In-Ga low melting temperature solder alloys. , 2018, , .		0
81	Electric current-induced plastic deformation: An in situ experimental study. , 2018, , .		0
82	Advanced Electronic Interconnection. Jom, 2019, 71, 2996-2997.	0.9	0
83	Development of Sn-Bi-In-Ga quaternary low-temperature solders. , 2019, , .		0
84	The study of Sn-45Bi-2.6Zn alloy before and after thermal aging. , 2019, , .		0
85	A novel TLP bonding based on sub-micron Ga particles. , 2019, , .		0
86	Mechanical properties of Sn-Bi-Ag low-temperature Pb-free solders. , 2022, , .		0
87	Sn-based solder design using machine learning approach. , 2022, , .		0
88	The Blech effect revisited â€“ an in-situ study. , 2022, , .		0
89	High thermal stability Cu-to-Cu joints fabricated by using Ga-based paste. , 2022, , .		0