

# Shih-kang Lin

## List of Publications by Year in descending order

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89  
papers

1,734  
citations

236612

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315357

38  
g-index

96  
all docs

96  
docs citations

96  
times ranked

1645  
citing authors

#	ARTICLE	IF	CITATIONS
1	Effect of Low Bi Content on Reliability of Sn-Bi Alloy Joints Before and After Thermal Aging. <i>Jom</i> , 2022, 74, 1751-1759.	0.9	5
2	Study of $\text{LiCoO}_2/\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}:\text{Ta}$ Interface Degradation in All-Solid-State Lithium Batteries. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 11288-11299.	4.0	36
3	Clarification on the Gassing Behavior of Carbon-Coated $\text{Li}_4\text{Ti}_5\text{O}_{12}$ at Elevated Temperature: Importance of Coating Coverage. <i>Batteries and Supercaps</i> , 2022, 5, .	2.4	3
4	Instability of Ga-substituted $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$ toward metallic Li. <i>Journal of Materials Chemistry A</i> , 2022, 10, 10998-11009.	5.2	14
5	Mechanical properties of Sn-Bi-Ag low-temperature Pb-free solders. , 2022, , .		0
6	Sn-based solder design using machine learning approach. , 2022, , .		0
7	The Blech effect revisited – an in-situ study. , 2022, , .		0
8	High thermal stability Cu-to-Cu joints fabricated by using Ga-based paste. , 2022, , .		0
9	Computational thermodynamics-assisted design of nitrate-based phase change materials for waste heat recovery. <i>International Journal of Energy Research</i> , 2022, 46, 14452-14461.	2.2	3
10	High-strength Sn-Bi-based low-temperature solders with high toughness designed via high-throughput thermodynamic modelling <sup>1</sup> . <i>Science and Technology of Welding and Joining</i> , 2022, 27, 572-578.	1.5	4
11	B2-strengthened Al-Co-Cr-Fe-Ni high entropy alloy with high ductility. <i>Materials Letters</i> , 2022, 325, 132828.	1.3	8
12	Low temperature sintering of fully inorganic all-solid-state batteries – Impact of interfaces on full cell performance. <i>Journal of Power Sources</i> , 2021, 482, 228905.	4.0	58
13	Mechanical and thermodynamic data-driven design of Al-Co-Cr-Fe-Ni multi-principal element alloys. <i>Materials Today Communications</i> , 2021, 26, 102096.	0.9	8
14	Improvements in mechanical properties of Sn-Bi alloys with addition of Zn and In. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021, 813, 141131.	2.6	31
15	Electrochemical properties of surface-modified hard carbon electrodes for lithium-ion batteries. <i>Electrochimica Acta</i> , 2021, 379, 138175.	2.6	8
16	<i>Ab Initio</i> Exploration of Co-Free Layered Oxides as Cathode Materials in Li Ion Batteries. <i>ACS Sustainable Chemistry and Engineering</i> , 2021, 9, 11342-11350.	3.2	13
17	Exploring Dielectric Constant and Dissipation Factor of LTCC Using Machine Learning. <i>Materials</i> , 2021, 14, 5784.	1.3	6
18	On the Schmid's Law for the electric current-induced deformation: An in situ EBSD study. <i>International Journal of Mechanical Sciences</i> , 2020, 168, 105295.	3.6	5

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19	Charge Transfer Kinetics of The Solid Electrolyte Interphase on $\text{Li}_{4-x}\text{Ti}_5\text{O}_{12}$ Thin Film Electrodes. ChemSusChem, 2020, 13, 4041-4050.	3.6	28
20	Charge Transfer Kinetics of the Solid Electrolyte Interphase on $\text{Li}_4\text{Ti}_5\text{O}_{12}$ Thin Film Electrodes. ChemSusChem, 2020, 13, 3944-3944.	3.6	1
21	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
22	Reactivity and thermo-physical properties of MnO-modified CaO-Al <sub>2</sub> O <sub>3</sub> -based mold fluxes for advanced high-strength steels. Journal of Materials Research and Technology, 2020, 9, 12091-12101.	2.6	10
23	Phase equilibria and thermodynamic assessment of the Mo-Nb-Re ternary system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2020, 70, 101797.	0.7	4
24	Reactive wafer bonding with nanoscale Ag/Cu multilayers. Scripta Materialia, 2020, 184, 1-5.	2.6	8
25	Consideration of kinetics on intermetallics formation in solid-solution high entropy alloys. Acta Materialia, 2020, 195, 71-80.	3.8	40
26	Electromigration effect upon single- and two-phase Ag-Cu alloy strips: An in situ study. Scripta Materialia, 2019, 173, 134-138.	2.6	10
27	Advanced Electronic Interconnection. Jom, 2019, 71, 2996-2997.	0.9	0
28	Progress in High-Entropy Alloys. Jom, 2019, 71, 3417-3418.	0.9	4
29	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
30	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
31	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
32	Defects in $\text{Li}_{4-x}\text{Ti}_5\text{O}_{12}$ induced by carbon deposition: an analysis of unidentified bands in Raman spectra. Physical Chemistry Chemical Physics, 2019, 21, 20757-20763.	1.3	10
33	Development of Sn-Bi-In-Ga quaternary low-temperature solders. , 2019, , .		0
34	Interfacial reactions of 68In-32Bi, 50In-50Bi and 33In-67Bi low melting alloys on Cu substrates. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 759, 506-513.	2.6	2
35	Exploring effective charge in electromigration using machine learning. MRS Communications, 2019, 9, 567-575.	0.8	18
36	Ab initio phase stability and electronic conductivity of the doped- $\text{Li}_4\text{Ti}_5\text{O}_{12}$ anode for Li-ion batteries. Acta Materialia, 2019, 175, 196-205.	3.8	35

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37	The newly developed Sn-Bi-Zn alloy with a low melting point, improved ductility, and high ultimate tensile strength. <i>Materialia</i> , 2019, 6, 100300.	1.3	35
38	Recent Developments in Using Computational Materials Design for High-Performance Li <sub>4</sub> Ti <sub>5</sub> O <sub>12</sub> Anode Material for Lithium-Ion Batteries. <i>Multiscale Science and Engineering</i> , 2019, 1, 87-107.	0.9	13
39	A Computational Thermodynamics-Assisted Development of Sn-Bi-In-Ga Quaternary Alloys as Low-Temperature Pb-Free Solders. <i>Materials</i> , 2019, 12, 631.	1.3	13
40	The study of Sn-45Bi-2.6Zn alloy before and after thermal aging. , 2019, , .		0
41	A novel TLP bonding based on sub-micron Ga particles. , 2019, , .		0
42	Effects of Ti addition on the microstructure, mechanical properties and electrical resistivity of eutectic Sn58Bi alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 744, 560-569.	2.6	48
43	CALPHAD-assisted morphology control of manganese sulfide inclusions in free-cutting steels. <i>Journal of Alloys and Compounds</i> , 2019, 779, 844-855.	2.8	32
44	<i>Ab Initio</i> -Aided Sensitizer Design for Mn <sup>4+</sup> -Activated Mg <sub>2</sub> TiO <sub>4</sub> as an Ultrabright Fluoride-Free Red-Emitting Phosphor. <i>Chemistry of Materials</i> , 2018, 30, 1769-1775.	3.2	25
45	On the formation mechanism of solid-solution Cu-to-Cu joints in the Cu/Ni/Ga/Ni/Cu system. <i>Materials Characterization</i> , 2018, 137, 14-23.	1.9	25
46	Integrated investigation of the Li <sub>4</sub> Ti <sub>5</sub> O <sub>12</sub> phase stability. <i>Ionics</i> , 2018, 24, 707-713.	1.2	9
47	Ga-based submicron particle and applications. , 2018, , .		1
48	Mechanical properties of Sn-Bi-In-Ga low melting temperature solder alloys. , 2018, , .		0
49	Electric current-induced plastic deformation: An in situ experimental study. , 2018, , .		0
50	High-strength and thermal stable Cu-to-Cu joint fabricated with transient molten Ga and Ni under-bump-metallurgy. <i>Journal of Alloys and Compounds</i> , 2017, 702, 561-567.	2.8	26
51	One-Step Synthesis of Highly Oxygen-Deficient Lithium Titanate Oxide with Conformal Amorphous Carbon Coating as Anode Material for Lithium Ion Batteries. <i>Advanced Materials Interfaces</i> , 2017, 4, 1700329.	1.9	38
52	Revisit the electromigration effect: In situ synchrotron X-ray and scanning electron microscopy and ab initio calculations. , 2017, , .		0
53	The electromigration effect revisited: non-uniform local tensile stress-driven diffusion. <i>Scientific Reports</i> , 2017, 7, 3082.	1.6	30
54	The mechanism of the sodiation and desodiation in Super P carbon electrode for sodium-ion battery. <i>Journal of Power Sources</i> , 2017, 340, 14-21.	4.0	36

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55	A novel mechanism of silver microflakes sinter joining. , 2016, , .		2
56	Thin-Film Photoluminescent Properties and the Atomistic Model of Mg <sub>2</sub> TiO <sub>4</sub> as a Non-rare Earth Matrix Material for Red-Emitting Phosphor. Journal of Electronic Materials, 2016, 45, 6214-6221.	1.0	2
57	Nano-volcanic Eruption of Silver. Scientific Reports, 2016, 6, 34769.	1.6	60
58	A novel approach for forming ductile Cu-to-Cu interconnection. , 2016, , .		0
59	Formation of alternating interfacial layers in Au-12Ge/Ni joints. Scientific Reports, 2015, 4, 4557.	1.6	12
60	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
61	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
62	Ab initio study of sodium intercalation into disordered carbon. Journal of Materials Chemistry A, 2015, 3, 9763-9768.	5.2	193
63	Simulations of domain pattern in lead-titanate by molecular dynamics simulations aided q-state Potts model. Computational Materials Science, 2015, 110, 221-226.	1.4	0
64	Strong coupling effects during Cu/In/Ni interfacial reactions at 280°C. Intermetallics, 2015, 58, 91-97.	1.8	9
65	Interfacial Reactions in Cu/Ga and Cu/Ga/Cu Couples. Journal of Electronic Materials, 2014, 43, 204-211.	1.0	62
66	Effects of zinc on the interfacial reactions of tin-indium solder joints with copper. Journal of Materials Science, 2014, 49, 3805-3815.	1.7	7
67	Atomistic Structure and Ab Initio Electrochemical Properties of Li <sub>4</sub> Ti <sub>5</sub> O <sub>12</sub> Defect Spinel for Li Ion Batteries. Journal of the Electrochemical Society, 2014, 161, A439-A444.	1.3	67
68	Effective suppression of interfacial intermetallic compound growth between Sn-58wt.% Bi solders and Cu substrates by minor Ga addition. Journal of Alloys and Compounds, 2014, 586, 319-327.	2.8	55
69	Geometric and Electronic Properties of Edge-decorated Graphene Nanoribbons. Scientific Reports, 2014, 4, 6038.	1.6	24
70	Ab initio energetics of charge compensating point defects: A case study on MgO. Computational Materials Science, 2013, 73, 41-55.	1.4	10
71	Interfacial reactions in Sn-20In-2.8Ag/Cu couples. Materials Chemistry and Physics, 2013, 142, 268-275.	2.0	10
72	Reaction evolution in Sn-20.0 wt% In-2.8 wt% Ag/Ni couples. Journal of Materials Research, 2013, 28, 3257-3260.	1.2	4

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73	PEMFC Nanoparticle Catalyst Dealloying from Kinetic Monte Carlo Simulations. ECS Transactions, 2013, 50, 1643-1649.	0.3	5
74	Ab initio-aided CALPHAD thermodynamic modeling of the Sn-Pb binary system under current stressing. Scientific Reports, 2013, 3, 2731.	1.6	17
75	Phase equilibria of Sn-Sb-Cu system. Materials Chemistry and Physics, 2012, 132, 703-715.	2.0	36
76	Abnormal spalling phenomena in the Sn-0.7Cu/Au/Ni/SUS304 interfacial reactions. Journal of Materials Research, 2010, 25, 2278-2286.	1.2	10
77	250 Å°C isothermal section of ternary Sn-In-Cu phase equilibria. Journal of Materials Research, 2009, 24, 2628-2637.	1.2	20
78	Liquidus Projection and Solidification of the Sn-In-Cu Ternary Alloys. Journal of Electronic Materials, 2008, 37, 498-506.	1.0	25
79	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
80	Thermodynamic description of the Cu-Sn system. Journal of Materials Research, 2007, 22, 3158-3165.	1.2	42
81	Phase transformation and microstructural evolution in solder joints. Jom, 2007, 59, 39-43.	0.9	14
82	Microstructure Development of Mechanical-Deformation-Induced Sn Whiskers. Journal of Electronic Materials, 2007, 36, 1732-1734.	1.0	21
83	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
84	Interfacial reactions in the pb-free composite solders with indium layers. Journal of Electronic Materials, 2006, 35, 72-75.	1.0	9
85	Electric current-induced abnormal Cu/InSn4 interfacial reactions. Journal of Materials Research, 2006, 21, 3065-3071.	1.2	19
86	Effects of temperature on interfacial reactions in InSn4/Ni couples. Journal of Materials Research, 2006, 21, 1161-1166.	1.2	15
87	Interfacial reactions in the Sn-20 at.% In/Cu and Sn-20 at.% In/Ni couples at 160 Å°C. Journal of Materials Research, 2006, 21, 1712-1717.	1.2	27
88	Phase diagrams of Pb-free solders and their related materials systems. , 2006, , 19-37.		7
89	Electromigration Effects upon Interfacial Reactions in Flip-Chip Solder Joints. Materials Transactions, 2004, 45, 661-665.	0.4	20