

Lei Liu

List of Publications by Year in descending order

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102
papers

3,577
citations

147726

31
h-index

161767

54
g-index

102
all docs

102
docs citations

102
times ranked

3426
citing authors

#	ARTICLE	IF	CITATIONS
1	Boride evolutionary behavior and mechanism in the TLP repaired IN738 superalloy with crack-like defects. <i>Journal of Alloys and Compounds</i> , 2022, 909, 164692.	2.8	8
2	Solar anti-icing surface with enhanced condensate self-removing at extreme environmental conditions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	63
3	Nacre-Inspired, Liquid Metal-Based Ultrasensitive Electronic Skin by Spatially Regulated Cracking Strategy. <i>Advanced Functional Materials</i> , 2021, 31, 2102359.	7.8	67
4	Sintering mechanism of Ag-Pd nanoalloy film for power electronic packaging. <i>Applied Surface Science</i> , 2021, 554, 149579.	3.1	15
5	Diamond thin films integrated with flexible substrates and their physical, chemical and biological characteristics. <i>Journal Physics D: Applied Physics</i> , 2021, 54, 384004.	1.3	5
6	Thermal stress reduction strategy for high-temperature power electronics with Ag sintering. <i>Microelectronics Reliability</i> , 2021, 127, 114379.	0.9	11
7	Effect of Ag Sintered Bondline Thickness on High-Temperature Reliability of SiC Power Devices. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2021, 11, 1889-1895.	1.4	7
8	Atomic Bonding-Engineered Heterogeneous Integration of Semiconductor Nanowires by Femtosecond Laser Irradiation for a Miniaturized Photodetector. <i>Applied Surface Science</i> , 2021, 575, 151709.	3.1	3
9	Femtosecond Laser Irradiation-Mediated MoS ₂ Metal Contact Engineering for High-Performance Field-Effect Transistors and Photodetectors. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 54246-54257.	4.0	15
10	Maskless Patterning of Metal Outflow in Alternating Metal/Ceramic Multiple Nanolayers by Femtosecond Laser Irradiation. <i>Journal of Physical Chemistry C</i> , 2020, 124, 1178-1189.	1.5	5
11	Exhaling-Driven Hydroelectric Nanogenerators for Stand-Alone Nonmechanical Breath Analyzing. <i>Advanced Materials Technologies</i> , 2020, 5, 1900819.	3.0	27
12	Mechanical properties and microstructure of low temperature sintered joints using organic-free silver nanostructured film for die attachment of SiC power electronics. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020, 793, 139894.	2.6	18
13	Moisture-Enabled Electricity Generation: From Physics and Materials to Self-Powered Applications. <i>Advanced Materials</i> , 2020, 32, e2003722.	11.1	175
14	A wireless, implantable optoelectrochemical probe for optogenetic stimulation and dopamine detection. <i>Microsystems and Nanoengineering</i> , 2020, 6, 64.	3.4	57
15	High-Reliability Wireless Packaging for High-Temperature SiC Power Device Sintered by Novel Organic-Free Nanomaterial. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2020, 10, 1953-1959.	1.4	8
16	Universal mechanical exfoliation of large-area 2D crystals. <i>Nature Communications</i> , 2020, 11, 2453.	5.8	394
17	Sintering Mechanism of a Supersaturated Ag-Cu Nanoalloy Film for Power Electronic Packaging. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 16743-16752.	4.0	32
18	Mechanism of ultrasonic-assisted transient liquid phase bonding of 6061 Al alloy with clad Zn-Al alloy in air. <i>Journal of Materials Processing Technology</i> , 2020, 286, 116823.	3.1	12

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19	Stabilizing the sintered nanopore bondline by residual organics for high temperature electronics. <i>Microelectronics Reliability</i> , 2020, 111, 113727.	0.9	8
20	Contact engineering of single core/shell SiC/SiO ₂ nanowire memory unit with high current tolerance using focused femtosecond laser irradiation. <i>Nanoscale</i> , 2020, 12, 5618-5626.	2.8	11
21	Competing Effects between Condensation and Self-Removal of Water Droplets Determine Antifrosting Performance of Superhydrophobic Surfaces. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 7805-7814.	4.0	52
22	A programmable, gradient-composition strategy producing synergistic and ultrahigh sensitivity amplification for flexible pressure sensing. <i>Nano Energy</i> , 2020, 74, 104847.	8.2	25
23	Rationally designed surface microstructural features for enhanced droplet jumping and anti-frosting performance. <i>Soft Matter</i> , 2020, 16, 4462-4476.	1.2	30
24	Low temperature Cu bonding with large tolerance of surface oxidation. <i>AIP Advances</i> , 2019, 9, .	0.6	9
25	Large-Area Die-Attachment Sintered by Organic-Free Ag Sintering Material at Low Temperature. <i>Journal of Electronic Materials</i> , 2019, 48, 7562-7572.	1.0	7
26	Two-photon absorption induced nanowelding for assembling ZnO nanowires with enhanced photoelectrical properties. <i>Applied Physics Letters</i> , 2019, 115, .	1.5	16
27	Highly focused femtosecond laser directed selective boron doping in single SiC nanowire device for n-p conversion. <i>Applied Physics Letters</i> , 2019, 115, .	1.5	7
28	Experimental and Theoretical Investigation of Laser Pretreatment on Strengthening the Heterojunction between Carbon Fiber-Reinforced Plastic and Aluminum Alloy. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 22005-22014.	4.0	63
29	Near-ideal compressive strength of nanoporous silver composed of nanowires. <i>Acta Materialia</i> , 2019, 173, 163-173.	3.8	12
30	Self-Powered, Rapid-Response, and Highly Flexible Humidity Sensors Based on Moisture-Dependent Voltage Generation. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 14249-14255.	4.0	74
31	Cooperative Bilayer of Lattice-Disordered Nanoparticles as Room-Temperature Sinterable Nanoarchitecture for Device Integrations. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 16972-16980.	4.0	30
32	SiC chip attachment sintered by nanosilver paste and their shear strength evaluation. <i>Welding in the World, Le Soudage Dans Le Monde</i> , 2019, 63, 1055-1063.	1.3	11
33	A Predictive Model for Thermal Conductivity of Nano-Ag Sintered Interconnect for a SiC Die. <i>Journal of Electronic Materials</i> , 2019, 48, 2811-2825.	1.0	12
34	Failure analysis and reliability evaluation of silver-sintered die attachment for high-temperature applications. <i>Microelectronics Reliability</i> , 2019, 94, 46-55.	0.9	24
35	Plasmon-Induced Heterointerface Thinning for Schottky Barrier Modification of Core/Shell SiC/SiO ₂ Nanowires. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 9326-9332.	4.0	16
36	Preparation of Oxidation-Resistant Ag-Cu Alloy Nanoparticles by Polyol Method for Electronic Packaging. <i>Journal of Electronic Materials</i> , 2019, 48, 1286-1293.	1.0	16

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37	Microstructural and mechanical evolution of silver sintering die attach for SiC power devices during high temperature applications. <i>Journal of Alloys and Compounds</i> , 2019, 774, 487-494.	2.8	65
38	Ultrasonic effect mechanism on transient liquid phase bonding joints of SiCp reinforced Mg metal matrix composites using Zn-Al-Zn multi-interlayer. <i>Ultrasonics Sonochemistry</i> , 2018, 43, 101-109.	3.8	11
39	TLP repaired IN738LC superalloy with uneven surface defect gap width after post heat treatment: Microstructure and mechanical properties. <i>Journal of Alloys and Compounds</i> , 2018, 748, 26-35.	2.8	14
40	Self-Powered Wearable Electronics Based on Moisture Enabled Electricity Generation. <i>Advanced Materials</i> , 2018, 30, e1705925.	11.1	207
41	Scalable High-Performance Ultraminiature Graphene Micro-Supercapacitors by a Hybrid Technique Combining Direct Writing and Controllable Microdroplet Transfer. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 5404-5412.	4.0	54
42	Hierarchically Mesostructured Aluminum Current Collector for Enhancing the Performance of Supercapacitors. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 16572-16580.	4.0	32
43	Modified pulse laser deposition of Ag nanostructure as intermediate for low temperature Cu-Cu bonding. <i>Applied Surface Science</i> , 2018, 445, 16-23.	3.1	17
44	Ultrasonic-assisted fluxless reactive bonding of Mg/Al dissimilar alloy using Zn-Al solder in air. <i>Science and Technology of Welding and Joining</i> , 2018, 23, 19-27.	1.5	20
45	Thermal-stable void-free interface morphology and bonding mechanism of low-temperature Cu-Cu bonding using Ag nanostructure as intermediate. <i>Journal of Alloys and Compounds</i> , 2018, 767, 575-582.	2.8	25
46	The mechanism of pore segregation in the sintered nano Ag for high temperature power electronics applications. <i>Materials Letters</i> , 2018, 228, 168-171.	1.3	12
47	Microstructure of diffusion-brazing repaired IN738LC superalloy with uneven surface defect gap width. <i>Science and Technology of Welding and Joining</i> , 2017, 22, 617-626.	1.5	10
48	Nanoscale Wire Bonding of Individual Ag Nanowires on Au Substrate at Room Temperature. <i>Nano-Micro Letters</i> , 2017, 9, 26.	14.4	16
49	The Effects of Borides on the Mechanical Properties of TLPB Repaired Inconel 738 Superalloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2017, 48, 4622-4631.	1.1	13
50	Improving the electrical contact at a Pt/TiO ₂ nanowire interface by selective application of focused femtosecond laser irradiation. <i>Nanotechnology</i> , 2017, 28, 405302.	1.3	19
51	Ultrasound-Assisted Transient Liquid Phase Bonding of Magnesium Alloy Using Brass Interlayer in Air. <i>Journal of Materials Science and Technology</i> , 2017, 33, 567-572.	5.6	25
52	Preparation of nanoparticle and nanowire mixed pastes and their low temperature sintering. <i>Journal of Alloys and Compounds</i> , 2017, 690, 86-94.	2.8	43
53	Sintering Bonding Process with Ag Nanoparticle Paste and Joint Properties in High Temperature Environment. <i>Journal of Nanomaterials</i> , 2016, 2016, 1-8.	1.5	25
54	<i>In situ</i> nanojoining of Y- and T-shaped silver nanowires structures using femtosecond laser radiation. <i>Nanotechnology</i> , 2016, 27, 125201.	1.3	40

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55	Plasmonic engineering of metal-oxide nanowire heterojunctions in integrated nanowire rectification units. <i>Applied Physics Letters</i> , 2016, 108, .	1.5	23
56	A comparative study of silver nanoparticles synthesized by arc discharge and femtosecond laser ablation in aqueous solution. <i>Applied Physics A: Materials Science and Processing</i> , 2016, 122, 1.	1.1	8
57	Plasmonicâ€Radiationâ€Enhanced Metal Oxide Nanowire Heterojunctions for Controllable Multilevel Memory. <i>Advanced Functional Materials</i> , 2016, 26, 5979-5986.	7.8	59
58	Time-dependent wettability of nano-patterned surfaces fabricated by femtosecond laser with high efficiency. <i>Applied Surface Science</i> , 2016, 389, 554-559.	3.1	36
59	Vacuum brazing of alumina to stainless steel using femtosecond laser patterned periodic surface structure. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016, 662, 178-184.	2.6	34
60	Microstructure, mechanical properties and mechanism of ultrasound-assisted rapid transient liquid phase bonding of magnesium alloy in air. <i>Materials and Design</i> , 2016, 91, 19-27.	3.3	42
61	Ultrasonic-assisted brazing of Alâ€Ti dissimilar alloy by a filler metal with a large semi-solid temperature range. <i>Materials and Design</i> , 2016, 95, 296-305.	3.3	40
62	Control of the kerf size and microstructure in Inconel 738 superalloy by femtosecond laser beam cutting. <i>Applied Surface Science</i> , 2016, 370, 364-372.	3.1	27
63	Nanostructure of immiscible Mgâ€Fe dissimilar weld without interfacial intermetallic transition layer. <i>Materials and Design</i> , 2016, 92, 445-449.	3.3	22
64	Cold welding of Ag nanowires by large plastic deformation. <i>Scripta Materialia</i> , 2016, 114, 112-116.	2.6	18
65	Joining Mg alloys with Zn interlayer by novel ultrasonic-assisted transient liquid phase bonding method in air. <i>Materials Letters</i> , 2016, 166, 219-222.	1.3	34
66	Investigation of splashing phenomena during the impact of molten sub-micron gold droplets on solid surfaces. <i>Soft Matter</i> , 2016, 12, 295-301.	1.2	13
67	Cu-Cu bonding by Ag nanostructure at low temperature of 180 Â°C. , 2015, , .		5
68	Synthesis with Glucose Reduction Method and Low Temperature Sintering of Ag-Cu Alloy Nanoparticle Pastes for Electronic Packaging. <i>Materials Transactions</i> , 2015, 56, 1252-1256.	0.4	7
69	Interfacial Nano-Mechanical Properties of Copper Joints Bonded with Silver Nanopaste near Room Temperature. <i>Materials Transactions</i> , 2015, 56, 1010-1014.	0.4	2
70	Effects of Package Warpage on Head-in-Pillow Defect. <i>Materials Transactions</i> , 2015, 56, 1037-1042.	0.4	11
71	Joining of Silver Nanomaterials at Low Temperatures: Processes, Properties, and Applications. <i>ACS Applied Materials & Interfaces</i> , 2015, 7, 12597-12618.	4.0	276
72	Sintering mechanisms and mechanical properties of joints bonded using silver nanoparticles for electronic packaging applications. <i>Welding in the World, Le Soudage Dans Le Monde</i> , 2015, 59, 427-432.	1.3	24

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73	Thermal analysis of Cu-organic composite nanoparticles and fabrication of highly conductive copper films. <i>Journal of Alloys and Compounds</i> , 2015, 649, 1156-1163.	2.8	13
74	Annealing-induced highly-conductive and stable Cu-organic composite nanoparticles with hierarchical structures. <i>Journal of Alloys and Compounds</i> , 2015, 636, 1-7.	2.8	9
75	Assembly of silver nanoparticles on nanowires into ordered nanostructures with femtosecond laser radiation. <i>Applied Optics</i> , 2015, 54, 2524.	0.9	12
76	Femtosecond laser-induced phase transformations in amorphous Cu ₇₇ Ni ₆ Sn ₁₀ P ₇ alloy. <i>Journal of Applied Physics</i> , 2015, 117, 023109.	1.1	13
77	Nanostructure evolution in joining of Al and Fe nanoparticles with femtosecond laser irradiation. <i>Journal of Applied Physics</i> , 2014, 115, .	1.1	8
78	Resistance spot welding of AZ series magnesium alloys: Effects of aluminum content on microstructure and mechanical properties. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2014, 618, 323-334.	2.6	47
79	Effects of Heat Treatment on Grain-Boundary δ -Mg ₁₇ Al ₁₂ and Fracture Properties of Resistance Spot-Welded AZ80 Mg Alloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2013, 44, 3747-3756.	1.1	16
80	Feasibility study of resistance spot welding of dissimilar Al/Mg combinations with Ni based interlayers. <i>Science and Technology of Welding and Joining</i> , 2013, 18, 541-550.	1.5	59
81	Highly localized heat generation by femtosecond laser induced plasmon excitation in Ag nanowires. <i>Applied Physics Letters</i> , 2013, 102, .	1.5	60
82	Bonding NiTi to glass with femtosecond laser pulses. <i>Materials Letters</i> , 2013, 98, 142-145.	1.3	10
83	Microstructure and fatigue properties of Mg-to-steel dissimilar resistance spot welds. <i>Materials & Design</i> , 2013, 45, 336-342.	5.1	57
84	Nano Brazing of Pt-Ag Nanoparticles under Femtosecond Laser Irradiation. <i>Nano-Micro Letters</i> , 2013, 5, 88-92.	14.4	11
85	Tensile and fatigue properties of weld-bonded and adhesive-bonded magnesium alloy joints. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013, 563, 125-132.	2.6	28
86	Cutting NiTi with Femtosecond Laser. <i>Advances in Materials Science and Engineering</i> , 2013, 2013, 1-4.	1.0	9
87	Self-Oriented Nanojoining of Silver Nanowires via Surface Selective Activation. <i>Particle and Particle Systems Characterization</i> , 2013, 30, 420-426.	1.2	49
88	Metal-Metal Bonding Process Using Cu+Ag Mixed Nanoparticles. <i>Materials Transactions</i> , 2013, 54, 879-883.	0.4	25
89	Mechanism of Low Temperature Sintering-Bonding through In-Situ Formation of Silver Nanoparticles Using Silver Oxide Microparticles. <i>Materials Transactions</i> , 2013, 54, 872-878.	0.4	14
90	Controlled joining of Ag nanoparticles with femtosecond laser radiation. <i>Journal of Applied Physics</i> , 2012, 112, .	1.1	34

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91	Microstructure analysis of AZ31 magnesium alloy welds using phase-field models. Acta Materialia, 2012, 60, 5925-5932.	3.8	54
92	Effect of PVP on the low temperature bonding process using polyol prepared Ag nanoparticle paste for electronic packaging application. Journal of Physics: Conference Series, 2012, 379, 012024.	0.3	12
93	Microstructure and mechanical properties of weld-bonded and resistance spot welded magnesium-to-steel dissimilar joints. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 537, 11-24.	2.6	68
94	Microstructure Refinement After the Addition of Titanium Particles in AZ31 Magnesium Alloy Resistance Spot Welds. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 598-609.	1.1	15
95	Resistance spot weld fatigue behavior and dislocation substructures in two different heats of AZ31 magnesium alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 529, 81-87.	2.6	28
96	Bonding of immiscible Mg and Fe via a nanoscale Fe ₂ Al ₅ transition layer. Scripta Materialia, 2011, 65, 982-985.	2.6	61
97	Effects of welding parameters and surface pretreatments on resistance spot welding of AZ31B Mg alloy. Metals and Materials International, 2010, 16, 967-974.	1.8	6
98	Resistance-Spot-Welded AZ31 Magnesium Alloys: Part I. Dependence of Fusion Zone Microstructures on Second-Phase Particles. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2010, 41, 1511-1522.	1.1	46
99	The Mechanisms of Resistance Spot Welding of Magnesium to Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2010, 41, 2651-2661.	1.1	77
100	Resistance Spot Welded AZ31 Magnesium Alloys, Part II: Effects of Welding Current on Microstructure and Mechanical Properties. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2010, 41, 2642-2650.	1.1	24
101	Resistance spot welding of magnesium alloys. , 2010, , 351-367e.		2
102	Effects of surface conditions on resistance spot welding of Mg alloy AZ31. Science and Technology of Welding and Joining, 2009, 14, 356-361.	1.5	36