

# Lin Jiang Chai

## List of Publications by Year in descending order

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105  
papers

2,367  
citations

186209

28  
h-index

265120

42  
g-index

105  
all docs

105  
docs citations

105  
times ranked

1148  
citing authors

#	ARTICLE	IF	CITATIONS
1	Development of low-alloyed and rare-earth-free magnesium alloys having ultra-high strength. <i>Acta Materialia</i> , 2018, 149, 350-363.	3.8	287
2	Microstructural characteristics and properties of CoCrFeNiNb <sub>x</sub> high-entropy alloy coatings on pure titanium substrate by pulsed laser cladding. <i>Applied Surface Science</i> , 2020, 517, 146214.	3.1	101
3	Texture control by {10-12} twinning to improve the formability of Mg alloys: A review. <i>Journal of Materials Science and Technology</i> , 2019, 35, 2269-2282.	5.6	79
4	Microstructural and textural evolution of commercially pure Zr sheet rolled at room and liquid nitrogen temperatures. <i>Materials and Design</i> , 2015, 85, 296-308.	3.3	73
5	Ultra-fine grain size and exceptionally high strength in dilute Mg-Ca alloys achieved by conventional one-step extrusion. <i>Materials Letters</i> , 2019, 237, 65-68.	1.3	58
6	Effect of predeformation on microstructural evolution of a Zr alloy during 550-700°C aging after $\hat{1}^2$ quenching. <i>Acta Materialia</i> , 2013, 61, 3099-3109.	3.8	53
7	Nanotwins induced by pulsed laser and their hardening effect in a Zr alloy. <i>Journal of Alloys and Compounds</i> , 2018, 748, 163-170.	2.8	50
8	Evolution of gradient microstructure in an extruded AZ31 rod during torsion and annealing and its effects on mechanical properties. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017, 689, 78-88.	2.6	47
9	Investigation of microstructure and wear resistance of laser-clad CoCrNiTi and CrFeNiTi medium-entropy alloy coatings on Ti sheet. <i>Optics and Laser Technology</i> , 2022, 145, 107518.	2.2	47
10	Microstructural characterization and hardness variation of pure Ti surface-treated by pulsed laser. <i>Journal of Alloys and Compounds</i> , 2018, 741, 116-122.	2.8	45
11	Microstructure and hardness of NbTiZr and NbTaTiZr refractory medium-entropy alloy coatings on Zr alloy by laser cladding. <i>Applied Surface Science</i> , 2021, 549, 149338.	3.1	44
12	Experimental observation of 12 $\hat{1}^2$ variants inherited from one $\hat{1}^2$ grain in a Zr alloy. <i>Journal of Nuclear Materials</i> , 2013, 440, 377-381.	1.3	41
13	Corrosion behavior of non-equilibrium Zr-Sn-Nb-Fe-Cu-O alloys in high-temperature 0.01 M LiOH aqueous solution and degradation of the surface oxide films. <i>Corrosion Science</i> , 2018, 136, 221-230.	3.0	41
14	Microstructural changes of Zr702 induced by pulsed laser surface treatment. <i>Applied Surface Science</i> , 2016, 364, 61-68.	3.1	39
15	Microstructural characteristics and hardness of CoNiTi medium-entropy alloy coating on pure Ti substrate prepared by pulsed laser cladding. <i>Journal of Alloys and Compounds</i> , 2020, 849, 156704.	2.8	39
16	Evolution of microstructure and grain boundary character distribution of a tin bronze annealed at different temperatures. <i>Materials Characterization</i> , 2016, 114, 204-210.	1.9	38
17	Correlation of microstructural, textural characteristics and hardness of Ti-6Al-4V sheet $\hat{1}^2$ -cooled at different rates. <i>Journal of Materials Science</i> , 2020, 55, 8346-8362.	1.7	38
18	Microstructure and properties of pure titanium coating on Ti-6Al-4V alloy by laser cladding. <i>Surface and Coatings Technology</i> , 2021, 416, 127137.	2.2	37

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19	Strengthening and toughening austenitic steel by introducing gradient martensite via cyclic forward/reverse torsion. <i>Materials and Design</i> , 2018, 143, 150-159.	3.3	36
20	Effects of laser surface alloying with Cr on microstructure and hardness of commercial purity Zr. <i>Journal of Alloys and Compounds</i> , 2019, 784, 1106-1112.	2.8	36
21	Phase constitution, microstructure and properties of pulsed laser-clad ternary CrNiTi medium-entropy alloy coating on pure titanium. <i>Surface and Coatings Technology</i> , 2020, 402, 126503.	2.2	35
22	$\beta$ Transformation characteristics revealed by pulsed laser-induced non-equilibrium microstructures in duplex-phase Zr alloy. <i>Science China Technological Sciences</i> , 2017, 60, 1255-1262.	2.0	34
23	High thermal stability and excellent mechanical properties of ultrafine-grained high-purity copper sheets subjected to asymmetric cryorolling. <i>Materials Characterization</i> , 2019, 153, 34-45.	1.9	33
24	Annealing behavior of gradient structured copper and its effect on mechanical properties. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017, 702, 331-342.	2.6	31
25	Study of precipitate evolution and recrystallization of $\beta$ -quenched Zr-Sn-Nb-Fe-Cr-Cu alloy during aging. <i>Journal of Nuclear Materials</i> , 2012, 427, 274-281.	1.3	29
26	Compression deformation behavior of Zr-1Sn-0.3Nb alloy with different initial orientations at 650 $^{\circ}$ C. <i>Materials &amp; Design</i> , 2013, 52, 1065-1070.	5.1	29
27	A special twin relationship or a common Burgers misorientation between $\beta$ plates after $\beta$ quenching in Zr alloy?. <i>Materials Characterization</i> , 2015, 104, 61-65.	1.9	29
28	Characterization of microstructure and hardness of a Zr-2.5Nb alloy surface-treated by pulsed laser. <i>Materials Chemistry and Physics</i> , 2017, 198, 303-309.	2.0	28
29	EBSD Study of Microstructural and Textural Changes of Hot-Rolled Ti-6Al-4V Sheet After Annealing at 800 $^{\circ}$ C. <i>Acta Metallurgica Sinica (English Letters)</i> , 2018, 31, 1215-1223.	1.5	28
30	Microstructural, textural and hardness evolution of commercially pure Zr surface-treated by high current pulsed electron beam. <i>Applied Surface Science</i> , 2016, 390, 430-434.	3.1	27
31	Effect of cooling rate on $\beta$ transformation during quenching of a Zr-0.85Sn-0.4Nb-0.4Fe-0.1Cr-0.05Cu alloy. <i>Science China Technological Sciences</i> , 2012, 55, 2960-2964.	2.0	26
32	Growth behavior study of second phase particles in a Zr-Sn-Nb-Fe-Cr-Cu alloy. <i>Journal of Nuclear Materials</i> , 2012, 423, 127-131.	1.3	26
33	Microstructure, texture evolution and mechanical properties of pure Ti by friction stir processing with slow rotation speed. <i>Materials Characterization</i> , 2019, 148, 1-8.	1.9	26
34	Microstructure and dry sliding wear behavior of laser clad AlCrNiSiTi multi-principal element alloy coatings. <i>Rare Metals</i> , 2017, 36, 562-568.	3.6	25
35	Preparation and characterization of Mg alloy rods with gradient microstructure by torsion deformation. <i>Metals and Materials International</i> , 2016, 22, 887-896.	1.8	24
36	Characterization and correlation of microstructure and hardness of Ti-6Al-4V sheet surface-treated by pulsed laser. <i>Journal of Alloys and Compounds</i> , 2020, 826, 154243.	2.8	24

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37	Twinning during recrystallization cooling in $\beta$ -Zr alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013, 576, 320-325.	2.6	22
38	Evolution of surface microstructure of Cu-50Cr alloy treated by high current pulsed electron beam. <i>Science China Technological Sciences</i> , 2015, 58, 462-469.	2.0	22
39	Characterization of adiabatic shear bands in the zirconium alloy impacted by split Hopkinson pressure bar at a strain rate of 6000s <sup>-1</sup> . <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2012, 558, 517-524.	2.6	21
40	Correlation between localized plastic deformation and localized corrosion in AA2099 aluminum-lithium alloy. <i>Surface and Interface Analysis</i> , 2016, 48, 838-842.	0.8	21
41	Twinning during $\beta$ slow cooling in a zirconium alloy. <i>Scripta Materialia</i> , 2012, 67, 716-719.	2.6	20
42	Activating profuse pyramidal slips in magnesium alloys via raising strain rate to dynamic level. <i>Journal of Alloys and Compounds</i> , 2016, 688, 149-152.	2.8	20
43	EBSD analysis on restoration mechanism of as-extruded AA2099 Al-Li alloy after various thermomechanical processes. <i>Materials Chemistry and Physics</i> , 2017, 191, 99-105.	2.0	20
44	Microstructure and wear properties of laser-clad NiCo alloy coating on Inconel 718 alloy. <i>Journal of Alloys and Compounds</i> , 2021, 879, 160412.	2.8	20
45	Microstructural characteristics of a commercially pure Zr treated by pulsed laser at different powers. <i>Materials Characterization</i> , 2015, 110, 25-32.	1.9	19
46	Surface modification of Cu-25Cr alloy induced by high current pulsed electron beam. <i>Transactions of Nonferrous Metals Society of China</i> , 2015, 25, 1935-1943.	1.7	18
47	Strengthening or weakening texture intensity of Zr alloy by modifying cooling rates from $\beta$ region. <i>Materials Chemistry and Physics</i> , 2018, 213, 414-421.	2.0	18
48	Regulating Precipitates by Simple Cold Deformations to Strengthen Mg Alloys: A Review. <i>Materials</i> , 2019, 12, 2507.	1.3	18
49	Homogenization and Growth Behavior of Second-Phase Particles in a Deformed Zr-Nb-Fe-Cu-Si-O Alloy. <i>Metals</i> , 2018, 8, 759.	1.0	16
50	Development of Grain Boundary Character Distribution in Medium-Strained 316L Stainless Steel During Annealing. <i>Metals and Materials International</i> , 2019, 25, 364-371.	1.8	16
51	Effects of heating rates and alloying elements (Sn, Cu and Cr) on the $\beta$ phase transformation of Zr-Nb-Fe (Cu, Cr) alloys. <i>Journal of Nuclear Materials</i> , 2014, 453, 269-274.	1.3	15
52	Influences of Laser Surface Alloying with Cr on Microstructural Characteristics and Hardness of Pure Ti. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2019, 50, 3794-3804.	1.1	15
53	Texture evolution and microstructural thermal stability of as-extruded AA2099 during hot deformation. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016, 675, 431-436.	2.6	14
54	Electron backscatter diffraction investigation of duplex-phase microstructure in a forged Zr-2.5Nb alloy. <i>Science China Technological Sciences</i> , 2016, 59, 673-679.	2.0	14

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55	Influence of Torsion Route on the Microstructure and Mechanical Properties of Extruded AZ31 Rods. <i>Advanced Engineering Materials</i> , 2017, 19, 1700267.	1.6	14
56	Effects of pulsed laser surface treatments on microstructural characteristics and hardness of CrCoNi medium-entropy alloy. <i>Philosophical Magazine</i> , 2019, 99, 3015-3031.	0.7	14
57	Microstructural characteristics, hardness and wear resistance of a typical ferritic/martensitic steel surface-treated by pulsed laser. <i>Surface and Coatings Technology</i> , 2021, 418, 127261.	2.2	14
58	Microstructures and Mechanical Properties of Commercial Hot-Extruded Copper Processed by Torsion Deformation. <i>Advanced Engineering Materials</i> , 2016, 18, 1738-1746.	1.6	13
59	On the microstructure and mechanical property of as-extruded Mg-Gd-Y-Zn alloy with Sr addition. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017, 679, 183-192.	2.6	13
60	Deformation mode-determined misorientation and microstructural characteristics in rolled pure Zr sheet. <i>Science China Technological Sciences</i> , 2018, 61, 1346-1352.	2.0	13
61	Surface Modification of Aluminized Cu-10Fe Alloy by High Current Pulsed Electron Beam. <i>Materials Research</i> , 2017, 20, 96-101.	0.6	12
62	Microstructural and Textural Differences Induced by Water and Furnace Cooling in Commercially Pure Zr Annealed in the $\beta$ Region. <i>Metals and Materials International</i> , 2018, 24, 673-680.	1.8	12
63	A strategy to introduce gradient equiaxed grains into Zr sheet by combining laser surface treatment, rolling and annealing. <i>Scripta Materialia</i> , 2021, 196, 113761.	2.6	12
64	Formation and evolution of adiabatic shear bands in zirconium alloy impacted by split Hopkinson pressure bar. <i>Journal of Nuclear Materials</i> , 2013, 437, 380-388.	1.3	11
65	Effects of $\beta$ -cooling rates on microstructural characteristics and hardness of Ti-5Al-5Mo-3Cr-1Fe metastable $\beta$ Ti alloy. <i>Materials Chemistry and Physics</i> , 2022, 276, 125318.	2.0	11
66	Laser-clad Nb(Ta)TiZr medium-entropy alloy coatings on pure Zr sheet: Microstructural characteristics, hardness and wear resistance. <i>Intermetallics</i> , 2022, 143, 107498.	1.8	11
67	Misorientation characteristics and textural changes induced by dense twins in high-purity Ti sheet after small strain rolling. <i>Science China Technological Sciences</i> , 2019, 62, 1968-1975.	2.0	10
68	Effect of Electropulsing Treatment on Microstructure and Mechanical Properties of a Deformed ZrTiAlV Alloy. <i>Materials</i> , 2019, 12, 3560.	1.3	10
69	Microstructure and mechanical properties of (CrCoNi) <sub>97</sub> Al <sub>1.5</sub> Ti <sub>1.5</sub> medium entropy alloy twisted by free-end-torsion at room and cryogenic temperatures. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020, 797, 140101.	2.6	10
70	Revealing Microstructural, Textural, and Hardness Evolution of Ti-6Al-4V Sheet Cooled From Sub $\beta$ -Transus Temperature at Different Rates. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2022, 53, 3179-3193.	1.1	10
71	Concurrent inheritance of microstructure and texture after slow $\beta$ cooling of commercially pure Zr. <i>Science China Technological Sciences</i> , 2016, 59, 1771-1776.	2.0	9
72	Effect of Shear Strain Rate on Microstructure and Properties of Austenitic Steel Processed by Cyclic Forward/Reverse Torsion. <i>Materials</i> , 2019, 12, 506.	1.3	9

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73	Typical Microstructural Characteristics of Ti-5Al-5Mo-3Cr-1Fe Metastable $\beta$ Ti Alloy Forged in $\beta$ Region. <i>Acta Metallurgica Sinica (English Letters)</i> , 2020, 33, 1601-1608.	1.5	9
74	Effects of pulsed laser surface remelting on microstructure, hardness and lead-bismuth corrosion behavior of a ferrite/martensitic steel. <i>Nuclear Engineering and Technology</i> , 2022, 54, 1972-1981.	1.1	9
75	Microstructural characteristics of as-forged and $\beta$ -air-cooled Zr-2.5Nb alloy. <i>Transactions of Nonferrous Metals Society of China</i> , 2018, 28, 1321-1328.	1.7	8
76	Effects of $\beta$ -cooling rates on microstructural characteristics and hardness variation of a dual-phase Zr alloy. <i>International Journal of Refractory Metals and Hard Materials</i> , 2021, 100, 105619.	1.7	8
77	HETEROGENEOUS MICROSTRUCTURE AND TEXTURE EVOLUTION DURING FABRICATION OF Zr-Sn-Nb ZIRCONIUM ALLOY SHEETS. <i>Jinshu Xuebao/Acta Metallurgica Sinica</i> , 2013, 48, 393-400.	0.3	8
78	Process parameter optimization and anisotropy sensitivity study for abrasive belt grinding of nickel-based single-crystal superalloy. <i>Archives of Civil and Mechanical Engineering</i> , 2021, 21, 1.	1.9	8
79	Precise determination of the $\beta$ - $\beta'$ - $\beta$ phase transformation temperature of Zr-1.0Sn-0.3Nb-0.3Fe alloy. <i>Science China Technological Sciences</i> , 2013, 56, 60-65.	2.0	7
80	Investigation of microstructures of laser surface-treated Zr702 sheet using electron channeling contrast imaging and electron backscatter diffraction techniques. <i>Surface and Coatings Technology</i> , 2016, 296, 13-19.	2.2	7
81	Microstructural Modification of Brush-Plated Nanocrystalline Cr by High Current Pulsed Electron Beam Irradiation. <i>Journal of Nano Research</i> , 0, 41, 87-95.	0.8	7
82	Bimodal plate structures induced by pulsed laser in duplex-phase Zr alloy. <i>Science China Technological Sciences</i> , 2017, 60, 587-592.	2.0	7
83	Microstructural characteristics of cold-rolled Zr-2.5Nb alloy annealed near the monotectoid temperature. <i>Science China Technological Sciences</i> , 2018, 61, 558-566.	2.0	7
84	Surface microstructural characteristics and hardness of Cr-coated Zr702 sheet processed by pulsed laser. <i>Intermetallics</i> , 2020, 119, 106710.	1.8	7
85	Microstructure and Liquid Phase Separation of CuCr Alloys Treated by High Current Pulsed Electron Beam. <i>Materials Research</i> , 2015, 18, 34-39.	0.6	6
86	Influence of Torsion on Precipitation and Hardening Effects during Aging of an Extruded AZ91 Alloy. <i>Journal of Materials Engineering and Performance</i> , 2019, 28, 4403-4414.	1.2	6
87	Quantitative study of microstructural, textural and hardness evolution of high-purity Ti sheet during rolling from low to medium strains. <i>Materials Today Communications</i> , 2021, 29, 102989.	0.9	6
88	Influence of Electron Beam Irradiation on Surface Roughness of Commercially AISI 5140 Steel. <i>Materials Transactions</i> , 2017, 58, 1519-1523.	0.4	5
89	Mis-layered structure of twin-twin interface with $7.4^\circ \langle -12-10 \rangle$ misorientation relationship in Mg alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 763, 138115.	2.6	5
90	Temperature and Stress Field Analysis for Pulsed Laser-Cladding of Pure Titanium on Ti-6Al-4V. <i>Jom</i> , 2022, 74, 755-763.	0.9	4

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91	Comparative Study of Microstructural Characteristics and Hardness of $\hat{\Gamma}^2$ -Quenched Zr702 and Zr $\hat{\Gamma}^2$ -2.5Nb Alloys. <i>Materials</i> , 2019, 12, 3752.	1.3	3
92	EFFECT OF PRE-DEFORMATION ON GRAINS AND PRECIPITATES OF Zr-Sn-Nb ALLOY DURING AGING. Jinshu Xuebao/Acta Metallurgica Sinica, 2012, 48, 107.	0.3	3
93	Microstructure, Texture, and Hardness Evolution of Cold-Rolled High-Purity Ti Sheet During Annealing at 350 $\hat{\Gamma}^2$ to 550 $\hat{\Gamma}^2$ . <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2022, 53, 2086-2098.	1.1	3
94	Influence of $\delta'$ Phase with GP-I Zones Fillings on Slip Behavior and Cold Rolling Texture in AA2099. <i>Metals and Materials International</i> , 2020, 27, 3307.	1.8	2
95	Microstructural and textural differences between rolled Zr702 and Zr-2.5Nb alloys: The role played by preexisting $\hat{\Gamma}^2$ phase. <i>Materials Chemistry and Physics</i> , 2021, 259, 124026.	2.0	2
96	Effects of $\hat{\Gamma}^2$ Air Cooling and Subsequent Cold Rolling on Microstructure and Hardness of Zr702 Sheet. <i>Metals and Materials International</i> , 2021, 27, 384-391.	1.8	2
97	Microstructure and electronic structure of Cr <sub>2</sub> C and Fe <sub>2</sub> Y in the Cr-coating prepared by pack-cementation on the surface of ODS steel. <i>Materials Today Communications</i> , 2021, 28, 102591.	0.9	2
98	Redistribution and refinement of the dendrites in a Mg-Y alloy by laser surface remelting and its influence on mechanical properties. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2022, 848, 143362.	2.6	2
99	Microstructure and corrosion behavior of a Zr-Sn-Nb-Fe-Cu-O alloy fabricated by $\hat{\Gamma}^2$ -quenching processing. <i>IOP Conference Series: Materials Science and Engineering</i> , 2017, 182, 012019.	0.3	1
100	Effect of heterogeneous laser surface treatment on mechanical properties of interstitial free steel. <i>IOP Conference Series: Materials Science and Engineering</i> , 2019, 580, 012029.	0.3	1
101	Dataset for microstructure and mechanical properties of (CrCoNi) <sub>97</sub> Al <sub>1.5</sub> Ti <sub>1.5</sub> medium entropy alloy twisted by free-end-torsion at room and cryogenic temperatures. <i>Data in Brief</i> , 2020, 33, 106333.	0.5	1
102	Influence of Initial Textures on Microstructure and Mechanical Properties of Commercially Pure TA2 Titanium Sheet Pre-Strained by Cryorolling. <i>Metals and Materials International</i> , 2021, 27, 717-724.	1.8	1
103	Intensified texture of Zr702 sheet after slow cooling from near $\hat{\Gamma}^2$ -transus temperature. <i>Materials Science and Technology</i> , 2019, 35, 1822-1830.	0.8	0
104	Effect of Heterogeneous Surface Structure on Mechanical Properties of Interstitial-Free Steel Subjected to Laser Surface Treatment. <i>Journal of Materials Engineering and Performance</i> , 2020, 29, 6831-6839.	1.2	0
105	Editorial: Hexagonal Close-Packed Metals and Alloys: Processing, Microstructure and Properties. <i>Frontiers in Materials</i> , 2021, 8, .	1.2	0