Zumin Wang

List of Publications by Year
in descending order

61 papers	1,166 citations	361413 20 h-index	414414 32 g-index
62 all docs	62 docs citations	62 times ranked	928 citing authors

#	Article	IF	Citations
1	Thermodynamics of reactions and phase transformations at interfaces and surfaces. International Journal of Materials Research, 2009, 100, 1281-1307.	0.3	102
2	High-Valent Nickel Promoted by Atomically Embedded Copper for Efficient Water Oxidation. ACS Catalysis, 2020, 10, 9725-9734.	11.2	100
3	Direct diffusion bonding of immiscible tungsten and copper at temperature close to Copper's melting point. Materials and Design, 2018, 137, 473-480.	7.0	66
4	Real-Time Visualization of Convective Transportation of Solid Materials at Nanoscale. Nano Letters, 2012, 12, 6126-6132.	9.1	63
5	Fundamentals of Metalâ€induced Crystallization of Amorphous Semiconductors. Advanced Engineering Materials, 2009, 11, 131-135.	3.5	61
6	Microstructure evolution and interface structure of Al-40 wt% Si composites produced by high-energy ball milling. Journal of Materials Science and Technology, 2019, 35, 512-519.	10.7	45
7	Thermal oxidation of amorphous Al0.44Zr0.56 alloys. Acta Materialia, 2015, 87, 187-200.	7.9	38
8	Metalâ€Catalyzed Growth of Semiconductor Nanostructures Without Solubility and Diffusivity Constraints. Advanced Materials, 2011, 23, 854-859.	21.0	36
9	Metal-Induced Crystallization of Highly Corrugated Silicon Thick Films as Potential Anodes for Li-Ion Batteries. ACS Applied Materials & Interfaces, 2014, 6, 8782-8788.	8.0	35
10	Synergistic phosphorized NiFeCo and MXene interaction inspired the formation of high-valence metal sites for efficient oxygen evolution. Journal of Materials Science and Technology, 2022, 106, 90-97.	10.7	35
11	â€œExplosiveâ€•crystallisation of amorphous germanium in Ge/Al layer systems; comparison with Si/Al layer systems. Scripta Materialia, 2006, 55, 987-990.	5.2	34
12	Observation and Origin of Extraordinary Atomic Mobility at Metal-Semiconductor Interfaces at Low Temperatures. Physical Review Letters, 2015, 115, 016102.	7.8	28
13	Oxidation of amorphous alloys. Journal of Materials Science and Technology, 2018, 34, 1977-2005.	10.7	28
14	High-strength diffusion bonding of oxide-dispersion-strengthened tungsten and CuCrZr alloy through surface nano-activation and Cu plating. Journal of Materials Science and Technology, 2021, 92, 186-194.	10.7	27
15	Natural oxidation of amorphous Cu Zr1- alloys. Applied Surface Science, 2018, 457, 396-402.	6.1	26
16	Anomalous texture development induced by grain yielding anisotropy in Ni and Ni-Mo alloys. Acta Materialia, 2020, 200, 857-868.	7.9	25
17	Al-induced crystallization of amorphous <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si62.gif" overflow="scroll"><mml:mrow><mml:msub><mml:mrow><mml:mtext>Si</mml:mtext></mml:mrow><mml:mrow><mml:mi>x</mml:mi>		

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19	Enhanced Electrocatalytic Activities toward the Ethanol Oxidation of Nanoporous Gold Prepared via Solid-Phase Reaction. ACS Applied Energy Materials, 2020, 3, 336-343.	5.1	22
20	Thermodynamic mechanism for direct alloying of immiscible tungsten and copper at a critical temperature range. Journal of Alloys and Compounds, 2019, 774, 939-947.	5.5	20
21	Quantum Confinement Drives Macroscopic Stress Oscillations at the Initial Stage of Thin Film Growth. Physical Review Letters, 2012, 109, 045501.	7.8	18
22	Hot Deformation Behavior and Microstructure Evolution of 14Cr ODS Steel. Materials, 2018, 11, 1044.	2.9	16
23	Fabrication and mechanical properties of WC nanoparticle dispersion-strengthened copper. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 817, 141274.	5.6	16
24	High-strength vacuum diffusion bonding of Cu-plated, sandblasted W and CuCrZr alloy. Journal of Materials Research and Technology, 2021, 15, 6260-6271.	5.8	16
25	Eutectic Nano-Droplet Template Injection into Bulk Silicon to Construct Porous Frameworks with Concomitant Conformal Coating as Anodes for Li-Ion Batteries. Scientific Reports, 2015, 5, 10381.	3.3	15
26	Effect of atomic structure on preferential oxidation of alloys: amorphous versus crystalline Cu-Zr. Journal of Materials Science and Technology, 2020, 40, 128-134.	10.7	15
27	Very low-temperature growth of few-layer graphene by Ni-induced crystallization of amorphous carbon in vacuum. Carbon, 2020, 159, 37-44.	10.3	15
28	Direct alloying of immiscible molybdenum-silver system and its thermodynamic mechanism. Journal of Materials Science and Technology, 2021, 65, 18-28.	10.7	15
29	Beyond dealloying: development of nanoporous gold via metal-induced crystallization and its electrochemical properties. Nanotechnology, 2019, 30, 375601.	2.6	12
30	Effect of structural order on oxidation kinetics and oxide phase evolution of Alâ€“Zr alloys. Corrosion Science, 2020, 165, 108407.	6.6	12
31	On the competition between synchronous oxidation and preferential oxidation in Cu-Zr-Al metallic glasses. Corrosion Science, 2020, 177, 108996.	6.6	12
32	Supermodulus effect by grain-boundary wetting in nanostructured multilayers. Journal of Materials Science and Technology, 2021, 65, 202-209.	10.7	12
33	Thermal oxidation of amorphous Cu Zr1â˜’ alloys: Role of composition-dependent thermodynamic stability. Applied Surface Science, 2020, 503, 144376.	6.1	11
34	Fabrication and performance of SiC-reinforced Cu: Role of the aspect ratio of the SiC reinforcement phase. Materials and Design, 2022, 220, 110869.	7.0	10
35	Stress originating from nanovoids in hydrogenated amorphous semiconductors. Journal of Applied Physics, 2017, 121, 095307.	2.5	9
36	Irradiation damage alloying for immiscible alloy systems and its thermodynamic origin. Materials and Design, 2019, 170, 107699.	7.0	9

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37	Anomalous formation of micrometer-thick amorphous oxide surficial layers during high-temperature oxidation of ZrAl2. Journal of Materials Science and Technology, 2019, 35, 1479-1484.	10.7	9
38	Tailoring metal film texture by use of high atomic mobility at metal-semiconductor interfaces. Applied Surface Science, 2019, 475, 117-123.	6.1	9
39	Interfacial reactions of crystalline Ni and amorphous SiC thin films. Journal of Materials Science, 2018, 53, 6681-6697.	3.7	8
40	Microstructure and properties of metallurgical bonding Mo/Pt/Ag laminated metal matrix composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 743, 675-683.	5.6	8
41	Enhancing the Glucose Oxidation on Nanocrystalline Au Thin-Films by Integrating Nanoporous Framework and Structural Defects. Journal of the Electrochemical Society, 2019, 166, H650-H655.	2.9	7
42	Preparation of a nanoporous active tungsten foil by two-step anodizing and deoxidized annealing for hydrogen evolution reaction. Nanotechnology, 2019, 30, 015603.	2.6	7
43	Joining of oxygen-free high-conductivity Cu to CuCrZr by direct diffusion bonding without using an interlayer at Low temperature. Fusion Engineering and Design, 2020, 151, 111400.	1.9	7
44	Formation and properties of ZrO2â€“Cu composite nanoglass films. Vacuum, 2020, 173, 109113.	3.5	7
45	Impact of interface thermodynamics on Al-induced crystallization of amorphous Si_xGe_{1â€“x} alloys. Journal of Materials Research, 2014, 29, 786-792.	2.6	6
46	Revealing the univariate effect of structural order on the oxidation of ternary alloys: Amorphous vs. crystalline Cuâ€“Zrâ€“Al alloys. Corrosion Science, 2021, 183, 109309.	6.6	6
47	Transient thermal shock and helium ion irradiation damage behaviors of ODS-W/CuCrZr joints. Materials Characterization, 2022, 184, 111710.	4.4	6
48	Improved strength and heat transfer of W/Cu joints via surface nano-activation of W. Fusion Engineering and Design, 2022, 182, 113219.	1.9	6
49	Temperature-dependent evolution of strength of nanocrystalline Ni(Mo) alloys at the Mo solubility limit. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 786, 139326.	5.6	5
50	Metalâ€“alloy induced crystallization of amorphous silicon. Journal of Applied Physics, 2020, 128, 045311.	2.5	4
51	Highly sensitive non-enzymatic hydrogen peroxide monitoring platform based on nanoporous gold via a modified solid-phase reaction method. RSC Advances, 2021, 11, 36753-36759.	3.6	4
52	Highly retarded crystallization in hydrogenated amorphous germanium; emergence of a porous nanocrystalline structure. Thin Solid Films, 2016, 615, 145-151.	1.8	3
53	Induction of diffusion and construction of metallurgical interfaces directly between immiscible Mo and Ag by irradiation-induced point defects. RSC Advances, 2017, 7, 53763-53769.	3.6	3
54	Communicationâ€”Highly Sensitive Glassy Carbon Electrode Altered by Nanoporous Gold for the Electrochemical Detection of Nitrite. Journal of the Electrochemical Society, 2020, 167, 086504.	2.9	3

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55	Introduction to Metal-Induced Crystallization. , 2015, , 1-24.		2
56	Heterogeneous growth of single crystals on polycrystals. Physical Review B, 2017, 95, .	3.2	1
57	Vapor-defect-solid growth mechanism for NanoNets utilizing natural defect networks in polycrystals. Materials and Design, 2018, 150, 206-214.	7.0	1
58	Microscopic Investigation of High-Temperature Oxidation of hcp-ZrAl2. Oxidation of Metals, 2020, 94, 431-445.	2.1	1
59	Nanoporous Gold Prepared via Solid-Phase Reaction: Enhanced Thermal Stability and High Sensitvity for Electrochemical Detection of Glucose. Journal of the Electrochemical Society, 2021, 168, 066516.	2.9	1
60	Microscopic investigation of Cu-induced crystallization of amorphous carbon at low temperatures. Applied Surface Science, 2022, 595, 153507.	6.1	1
61	Interdiffusion in amorphous AlxZr1-x alloys. Journal of Applied Physics, 2017, 121, 015302.	2.5	0