Tao Hu

List of Publications by Year
in descending order

71 papers	5,600 citations	109137 35 h-index	95083 68 g-index
72 all docs	72 docs citations	72 times ranked	5829 citing authors

#	Article	IF	Citations
1	Mechanical behavior and strengthening mechanisms in ultrafine grain precipitation-strengthened aluminum alloy. Acta Materialia, 2014, 62, 141-155.	3.8	1,131
2	High-Entropy Metal Diborides: A New Class of High-Entropy Materials and a New Type of Ultrahigh Temperature Ceramics. Scientific Reports, 2016, 6, 37946.	1.6	721
3	A new class of high-entropy perovskite oxides. Scripta Materialia, 2018, 142, 116-120.	2.6	560
4	Precipitation phenomena in an ultrafine-grained Al alloy. Acta Materialia, 2013, 61, 2163-2178.	3.8	201
5	Bioactive SrTiO₃ Nanotube Arrays: Strontium Delivery Platform on Ti-Based Osteoporotic Bone Implants. ACS Nano, 2009, 3, 3228-3234.	7.3	198
6	Coupling of dislocations and precipitates: Impact on the mechanical behavior of ultrafine grained Alâ€“Znâ€“Mg alloys. Acta Materialia, 2016, 103, 153-164.	3.8	189
7	Degradation behaviour of pure magnesium in simulated body fluids with different concentrations of. Corrosion Science, 2011, 53, 1522-1528.	3.0	133
8	A Biomimetic Hierarchical Scaffold: Natural Growth of Nanotitanates on Three-Dimensional Microporous Ti-Based Metals. Nano Letters, 2008, 8, 3803-3808.	4.5	124
9	Influence of length-scales on spatial distribution and interfacial characteristics of B4C in a nanostructured Al matrix. Acta Materialia, 2015, 89, 327-343.	3.8	119
10	Experimental and DFT characterization of Î·â€² nano-phase and its interfaces in Al Zn Mg Cu alloys. Acta Materialia, 2019, 164, 207-219.	3.8	113
11	Influence of Test Solutions on In Vitro Studies of Biomedical Magnesium Alloys. Journal of the Electrochemical Society, 2010, 157, C238.	1.3	110
12	Relationship between osseointegration and superelastic biomechanics in porous NiTi scaffolds. Biomaterials, 2011, 32, 330-338.	5.7	103
13	Ultra-sensitive detection of cysteine by gold nanorod assembly. Biosensors and Bioelectronics, 2010, 25, 2078-2083.	5.3	97
14	Stabilization of nanocrystalline alloys at high temperatures via utilizing high-entropy grain boundary complexions. Scripta Materialia, 2016, 124, 160-163.	2.6	97
15	Single-phase high-entropy intermetallic compounds (HEICs): bridging high-entropy alloys and ceramics. Science Bulletin, 2019, 64, 856-864.	4.3	87
16	Improving the tensile ductility and uniform elongation of high-strength ultrafine-grained Al alloys by lowering the grain boundary misorientation angle. Scripta Materialia, 2014, 78-79, 25-28.	2.6	83
17	Effects of Carbon and Nitrogen Plasma Immersion Ion Implantation on In vitro and In vivo Biocompatibility of Titanium Alloy. ACS Applied Materials & Interfaces, 2013, 5, 1510-1516.	4.0	81
18	Synthesis of NiCo2S4-based nanostructured electrodes supported on nickel foams with superior electrochemical performance. Journal of Materials Science, 2016, 51, 1903-1913.	1.7	77

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19	Porous magnetic manganese oxide nanostructures: Synthesis and their application in water treatment. Journal of Colloid and Interface Science, 2011, 359, 68-74.	5.0	70
20	Surface nano-architectures and their effects on the mechanical properties and corrosion behavior of Ti-based orthopedic implants. Surface and Coatings Technology, 2013, 233, 13-26.	2.2	65
21	Metal/ceramic interface structures and segregation behavior in aluminum-based composites. Acta Materialia, 2015, 95, 254-263.	3.8	64
22	Grain boundary complexions in multicomponent alloys: Challenges and opportunities. Current Opinion in Solid State and Materials Science, 2016, 20, 268-277.	5.6	64
23	Plasma-Modified Biomaterials for Self-Antimicrobial Applications. ACS Applied Materials & Interfaces, 2011, 3, 2851-2860.	4.0	61
24	Enhancing the electrochemical performance of Li-rich layered oxide Li1.13Ni0.3Mn0.57O2 via WO3 doping and accompanying spontaneous surface phase formation. Journal of Power Sources, 2018, 375, 21-28.	4.0	61
25	Corrosion products on biomedical magnesium alloy soaked in simulated body fluids. Journal of Materials Research, 2009, 24, 2711-2719.	1.2	57
26	Formation of coherent, core-shelled nano-particles in dilute Al-Sc-Zr alloys from the first-principles. Journal of Materials Science and Technology, 2019, 35, 930-938.	5.6	56
27	On the thermal stability of ultrafine-grained Al stabilized by in-situ amorphous Al2O3 network. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 648, 61-71.	2.6	55
28	Corrosion products and mechanism on NiTi shape memory alloy in physiological environment. Journal of Materials Research, 2010, 25, 350-358.	1.2	53
29	One-Step Synthesis of Monodisperse and Hierarchically Mesostructured Silica Particles with a Thin Shell. Langmuir, 2010, 26, 13556-13563.	1.6	51
30	Microstructure and Strengthening Mechanisms in an Ultrafine Grained Al-Mg-Sc Alloy Produced by Powder Metallurgy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 6329-6343.	1.1	51
31	Controllable degradation of biomedical magnesium by chromium and oxygen dual ion implantation. Materials Letters, 2011, 65, 2171-2173.	1.3	49
32	Role of disordered bipolar complexions on the sulfur embrittlement of nickel general grain boundaries. Nature Communications, 2018, 9, 2764.	5.8	49
33	Increasing the Efficacy of Stem Cell Therapy via Triple-Function Inorganic Nanoparticles. ACS Nano, 2019, 13, 6605-6617.	7.3	44
34	Correlation of grain boundary extra free volume with vacancy and solute segregation at grain boundaries: a case study for Al. Philosophical Magazine, 2018, 98, 464-483.	0.7	38
35	Influence of grain boundaries with dispersed nanoscale Al2O3 particles on the strength of Al for a wide range of homologous temperatures. Journal of Alloys and Compounds, 2019, 772, 472-481.	2.8	37
36	Hydrogen release from titanium hydride in foaming of orthopedic NiTi scaffolds. Acta Biomaterialia, 2011, 7, 1387-1397.	4.1	31

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37	Structure and corrosion resistance of Ti/TiC coatings fabricated by plasma immersion ion implantation and deposition on nickelâ€“titanium. Surface and Coatings Technology, 2013, 229, 151-155.	2.2	31
38	Stabilized plasticity in ultrahigh strength, submicron Al crystals. Acta Materialia, 2015, 94, 46-58.	3.8	28
39	Mechanical properties of Al2O3/Al bi-layer coated AZ91 magnesium alloy. Thin Solid Films, 2009, 517, 5357-5360.	0.8	25
40	Microstructure evolution and bonding strength of the Al2O3/Al2O3 interface brazed via Ni-Ti intermetallic phases. Journal of the European Ceramic Society, 2020, 40, 1496-1504.	2.8	24
41	Ex situ and in situ evaluation of carbon ion-implanted stainless steel bipolar plates in polymer electrolyte membrane fuel cells. Journal of Power Sources, 2012, 199, 207-213.	4.0	23
42	Double-shell structure of Al3(Zr,Sc) precipitate induced by thermomechanical treatment of Alâ€“Zrâ€“Sc alloy cable. Journal of Rare Earths, 2019, 37, 668-672.	2.5	21
43	Metal/ceramic Interface Structures and Segregation Behavior in Aluminum-based Composites. Microscopy and Microanalysis, 2015, 21, 1053-1054.	0.2	20
44	A comparative analysis of solubility, segregation, and phase formation in atomized and cryomilled Alâ€“Fe alloy powders. Journal of Materials Science, 2015, 50, 4683-4697.	1.7	20
45	Stress-induced Î±â€³ phase in a beta Tiâ€“19Nbâ€“1.5Moâ€“4Zrâ€“8Sn alloy. Materials Characterization, 2018, 140, 247-258.	1.9	18
46	Nucleation of Y-X-O (X=Al, Ti, or Zr) NCs in nano-structured ferritic alloys: A first principles comparative study. Journal of Nuclear Materials, 2019, 518, 140-148.	1.3	18
47	In vitro biocompatibility of titanium-nickel alloy with titanium oxide film by H2O2 oxidation. Transactions of Nonferrous Metals Society of China, 2007, 17, 553-557.	1.7	17
48	Dual Ti and C ion-implanted stainless steel bipolar plates in polymer electrolyte membrane fuel cells. Surface and Coatings Technology, 2012, 206, 2914-2921.	2.2	16
49	Distinct Hardening Behavior of Ultrafine-Grained Al-Zn-Mg-Cu Alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 4762-4765.	1.1	15
50	Silicon carbide nanoparticles as a photoacoustic and photoluminescent dual-imaging contrast agent for long-term cell tracking. Nanoscale Advances, 2019, 1, 3514-3520.	2.2	15
51	Activation of mitogen-activated protein kinases cellular signal transduction pathway in mammalian cells induced by silicon carbide nanowires. Biomaterials, 2010, 31, 7856-7862.	5.7	14
52	Structure and properties of TiC/Ti coatings fabricated on NiTi by plasma immersion ion implantation and deposition. Vacuum, 2013, 89, 238-243.	1.6	13
53	In situ synthesis of nanostructured titania film on NiTi shape memory alloy by Fenton's oxidation method. Transactions of Nonferrous Metals Society of China, 2007, 17, 902-906.	1.7	12
54	Electrochemical Stability of Orthopedic Porous NiTi Shape Memory Alloys Treated by Different Surface Modification Techniques. Journal of the Electrochemical Society, 2009, 156, C187.	1.3	12

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55	On the electrostatic potential assisted nucleation and growth of precipitates in Al-Cu alloy. Scripta Materialia, 2018, 150, 13-17.	2.6	12
56	Deformation of a ceramic/metal interface at the nanoscale. Nanoscale, 2016, 8, 10541-10547.	2.8	11
57	2430% Superplastic strain in a eutectic Au-Sn alloy with micrometer-sized grains maintained by spinodal-like decomposition. Acta Materialia, 2022, 228, 117766.	3.8	10
58	Microstructural evolution of cryomilled Ti/Al mixture during high-pressure torsion. Journal of Materials Research, 2014, 29, 578-585.	1.2	8
59	Comparison of oxidation resistance of copper treated by beam-line ion implantation and plasma immersion ion implantation. Materials Chemistry and Physics, 2009, 116, 519-522.	2.0	7
60	Quasi-static deformation and final fracture behaviour of aluminium alloy 5083: influence of cryomilling. Philosophical Magazine, 2013, 93, 899-921.	0.7	7
61	Surface-Enhanced Raman Scattering Sensor Based on Silver Dendritic Nanostructures. Sensor Letters, 2010, 8, 395-398.	0.4	6
62	Effects of H2O2 pretreatment on surface characteristics and bioactivity of NaOH-treated NiTi shape memory alloy. Transactions of Nonferrous Metals Society of China, 2006, 16, 1295-1300.	1.7	3
63	Three-Dimensional Quasi-Direct-Current Plasma Immersion Ion Implantation Into Biomedical Nickelâ€“Titanium Shape Memory Alloy Rod. IEEE Transactions on Plasma Science, 2009, 37, 2245-2249.	0.6	3
64	Strategies to Approach Stabilized Plasticity in Metals with Diminutive Volume: A Brief Review. Crystals, 2016, 6, 92.	1.0	3
65	Homogeneous Anodic TiO 2 Nanotube Layers on Tiâ€“6Alâ€“4V Alloy with Improved Adhesion Strength and Corrosion Resistance. Advanced Materials Interfaces, 2019, 6, 1801964.	1.9	3
66	One-step, non-contact pattern transfer by direct-current plasma immersion ion implantation. Journal Physics D: Applied Physics, 2009, 42, 195201.	1.3	2
67	Fabrication and Surface Modification of Porous Nano-Structured NiTi Orthopedic Scaffolds for Bone Implants. Materials Research Society Symposia Proceedings, 2009, 1181, 7.	0.1	1
68	Surface Treatments of Nearly Equiatomic NiTi Alloy (Nitinol) for Surgical Implants. , 2011, , .		1
69	Disordered dislocation configuration in submicrometer Al crystal subjected to plane strain bending. Scripta Materialia, 2016, 113, 35-38.	2.6	1
70	Surface hardening of NiTi shape memory alloy induced by surface nanocrystallization via surface mechanical attrition treatment. , 2010, , .		0
71	Production of Three-Dimensional Hierarchical Nano Ti-Based Metals Scaffolds for Bone Tissue Grafts. , 2012, , 69-82.		0