Qiuming Wei

List of Publications by Year in descending order

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118 papers	6,773 citations	71061 41 h-index	60583 81 g-index
120 all docs	120 docs citations	120 times ranked	4646 citing authors

#	Article	IF	Citations
1	Effect of nanocrystalline and ultrafine grain sizes on the strain rate sensitivity and activation volume: fcc versus bcc metals. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 381, 71-79.	2.6	761
2	The design of accurate micro-compression experiments. Scripta Materialia, 2006, 54, 181-186.	2.6	373
3	Strain rate effects in the ultrafine grain and nanocrystalline regimesâ€"influence on some constitutive responses. Journal of Materials Science, 2007, 42, 1709-1727.	1.7	303
4	Microstructure and mechanical properties of super-strong nanocrystalline tungsten processed by high-pressure torsion. Acta Materialia, 2006, 54, 4079-4089.	3.8	302
5	Evolution and microstructure of shear bands in nanostructured Fe. Applied Physics Letters, 2002, 81, 1240-1242.	1.5	288
6	Adiabatic shear banding in ultrafine-grained Fe processed by severe plastic deformation. Acta Materialia, 2004, 52, 1859-1869.	3.8	252
7	Influence of specimen dimensions on the tensile behavior of ultrafine-grained Cu. Scripta Materialia, 2008, 59, 627-630.	2.6	241
8	Influence of specimen dimensions and strain measurement methods on tensile stressâ€"strain curves. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 525, 68-77.	2.6	198
9	Size-independent strength and deformation mode in compression of a Pd-based metallic glass. Acta Materialia, 2008, 56, 5091-5100.	3.8	175
10	Strong Strain Hardening in Nanocrystalline Nickel. Physical Review Letters, 2009, 103, 205504.	2.9	174
11	Effect of low-temperature rolling on the tensile behavior of commercially pure tungsten. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 491, 62-69.	2.6	133
12	Temperature Rise Associated with Adiabatic Shear Band: Causality Clarified. Physical Review Letters, 2019, 122, 015503.	2.9	125
13	Microstructure and mechanical properties of tantalum after equal channel angular extrusion (ECAE). Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 358, 266-272.	2.6	123
14	Structural characteristics of AlN films deposited by pulsed laser deposition and reactive magnetron sputtering: A comparative study. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1998, 16, 2804-2815.	0.9	114
15	Plastic flow localization in bulk tungsten with ultrafine microstructure. Applied Physics Letters, 2005, 86, 101907.	1.5	109
16	Microstructure and mechanical properties of bulk nanostructured Cuâ€"Ta alloys consolidated by equal channel angular extrusion. Acta Materialia, 2014, 76, 168-185.	3.8	108
17	Microstructure and mechanical properties at different length scales and strain rates of nanocrystalline tantalum produced by high-pressure torsion. Acta Materialia, 2011, 59, 2423-2436.	3.8	105
18	Grain size engineering of bcc refractory metals: Top-down and bottom-upâ€"Application to tungsten. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 467, 33-43.	2.6	100

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19	Tensile properties of nanocrystalline tantalum from molecular dynamics simulations. Acta Materialia, 2008, 56, 3470-3480.	3.8	100
20	Design and fabrication of a metastable Î²-type titanium alloy with ultralow elastic modulus and high strength. Scientific Reports, 2015, 5, 14688.	1.6	100
21	The microstructure and mechanical behavior of Mg/Ti multilayers as a function of individual layer thickness. Acta Materialia, 2014, 63, 216-231.	3.8	98
22	Bulk and microscale compressive properties of a Pd-based metallic glass. Scripta Materialia, 2007, 57, 517-520.	2.6	96
23	A comparative study on the in situ helium irradiation behavior of tungsten: Coarse grain vs. nanocrystalline grain. Acta Materialia, 2018, 147, 100-112.	3.8	95
24	Mechanical properties of diamond-like carbon composite thin films prepared by pulsed laser deposition. Composites Part B: Engineering, 1999, 30, 675-684.	5.9	94
25	Uncovering high-strain rate protection mechanism in nacre. Scientific Reports, 2011, 1, 148.	1.6	87
26	Superhard diamondlike carbon: preparation, theory, and properties. International Materials Reviews, 2000, 45, 133-164.	9.4	85
27	Nano-structured vanadium: processing and mechanical properties under quasi-static and dynamic compression. Scripta Materialia, 2004, 50, 359-364.	2.6	83
28	Preparation and mechanical properties of composite diamond-like carbon thin films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1999, 17, 3406-3414.	0.9	81
29	Statistic derivation of Taylor factors for polycrystalline metals with application to pure magnesium. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 582, 270-275.	2.6	77
30	A critical assessment of high-temperature dynamic mechanical testing of metals. International Journal of Impact Engineering, 2009, 36, 177-184.	2.4	68
31	Prevalence of shear banding in compression of Zr41Ti14Cu12.5Ni10Be22.5 pillars as small as 150 nm in diameter. Acta Materialia, 2009, 57, 3562-3571.	3.8	65
32	Mechanical properties of a high strength Cuâ€“Ta composite at elevated temperature. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 638, 322-328.	2.6	63
33	Improvement of wear resistance of pulsed laser deposited diamond-like carbon films through incorporation of metals. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1998, 53, 262-266.	1.7	60
34	Effect of ceramic nanoparticle reinforcements on the quasistatic and dynamic mechanical properties of magnesium-based metal matrix composites. Journal of Materials Research, 2013, 28, 1835-1852.	1.2	57
35	Microstructural evolution and formation of nanocrystalline intermetallic compound during surface mechanical attrition treatment of cobalt. Acta Materialia, 2007, 55, 5768-5779.	3.8	52
36	A comparative study on the microstructure and mechanical behavior of titanium: Ultrafine grain vs. coarse grain. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 669, 226-245.	2.6	52

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37	Dynamic failure of titanium: Temperature rise and adiabatic shear band formation. Journal of the Mechanics and Physics of Solids, 2020, 135, 103811.	2.3	52
38	Microcompression of nanocrystalline nickel. Applied Physics Letters, 2006, 88, 103112.	1.5	50
39	Hidden energy dissipation mechanism in nacre. Journal of Materials Research, 2014, 29, 1573-1578.	1.2	47
40	Formation of nanocrystalline structure in tantalum by sliding friction treatment. International Journal of Refractory Metals and Hard Materials, 2014, 45, 71-75.	1.7	46
41	High Plasticity and Substantial Deformation in Nanocrystalline NiFe Alloys Under Dynamic Loading. Advanced Materials, 2009, 21, 5001-5004.	11.1	44
42	On adiabatic shear localization in nanostructured face-centered cubic alloys with different stacking fault energies. Acta Materialia, 2017, 141, 163-182.	3.8	43
43	Dynamic behaviors of body-centered cubic metals with ultrafine grained and nanocrystalline microstructures. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 493, 58-64.	2.6	42
44	Microstructure and mechanical behavior of ECAP processed AZ31B over a wide range of loading rates under compression and tension. Mechanics of Materials, 2015, 86, 55-70.	1.7	40
45	Structure and properties of novel functional diamond-like carbon coatings produced by laser ablation. Surface and Coatings Technology, 2001, 146-147, 250-257.	2.2	39
46	Mechanical behavior of microstructure engineered multi-length-scale titanium over a wide range of strain rates. Acta Materialia, 2013, 61, 3781-3798.	3.8	39
47	Dynamic recrystallization in nanocrystalline AZ31 Mg-alloy. Vacuum, 2017, 143, 236-240.	1.6	39
48	Nanoengineering opens a new era for tungsten as well. Jom, 2006, 58, 40-44.	0.9	37
49	Mechanical properties of nanocrystalline and epitaxial TiN films on (100) silicon. Journal of Materials Research, 2001, 16, 2733-2738.	1.2	36
50	Mechanical behavior and dynamic failure of high-strength ultrafine grained tungsten under uniaxial compression. Acta Materialia, 2005, , .	3.8	36
51	Effect of strain rate on the mechanical properties of magnesium alloy AMX602. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 649, 338-348.	2.6	36
52	Microstructure and helium irradiation performance of high purity tungsten processed by cold rolling. Journal of Nuclear Materials, 2016, 479, 418-425.	1.3	35
53	Microstructural evolution and mechanical properties of niobium processed by equal channel angular extrusion up to 24 passes. Acta Materialia, 2012, 60, 2310-2323.	3.8	34
54	Effect of low-temperature rolling on the propensity to adiabatic shear banding of commercial purity tungsten. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 578, 394-401.	2.6	33

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55	Atomistic simulations of the effect of embedded hydrogen and helium on the tensile properties of monocrystalline and nanocrystalline tungsten. Journal of Nuclear Materials, 2016, 481, 190-200.	1.3	33
56	A numerical study of microstructure effect on adiabatic shear instability: Application to nanostructured/ultrafine grained materials. Mechanics of Materials, 2010, 42, 1020-1029.	1.7	32
57	Quasi-static and high-rate mechanical behavior of aluminum-based MMC reinforced with boron carbide of various length scales. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 650, 305-316.	2.6	31
58	Nanocrystalline refractory metals for extreme condition applications. Jom, 2011, 63, 27-31.	0.9	27
59	Atomic structure, electrical properties, and infrared range optical properties of diamondlike carbon films containing foreign atoms prepared by pulsed laser deposition. Journal of Materials Research, 2000, 15, 633-641.	1.2	26
60	Dynamic self-strengthening of a bio-nanostructured armor â€" conch shell. Materials Science and Engineering C, 2019, 103, 109820.	3.8	26
61	Atomistic Origin of Deformation Twinning in Biomineral Aragonite. Physical Review Letters, 2017, 118, 105501.	2.9	25
62	Enhanced hydrogen absorption kinetics by introducing fine eutectic and long-period stacking ordered structure in ternary eutectic Mgâ€"Niâ€"Y alloy. Journal of Alloys and Compounds, 2020, 820, 153187.	2.8	25
63	Effect of strain rate on the mechanical properties of a gum metal with various microstructures. Acta Materialia, 2017, 132, 193-208.	3.8	23
64	Microstructural evolution of AZ31 magnesium alloy subjected to sliding friction treatment. Philosophical Magazine, 2018, 98, 1576-1593.	0.7	23
65	In situ synthesis of nanocrystalline intermetallic layer during surface plastic deformation of zirconium. Surface and Coatings Technology, 2007, 202, 583-589.	2.2	22
66	The nature behind the preferentially embrittling effect of impurities on the ductility of tungsten. Computational Materials Science, 2014, 93, 104-111.	1.4	22
67	Residual stress and its effect on the mechanical properties of Y-doped Mg alloy fabricated via back-pressure assisted equal channel angular pressing (ECAP-BP). Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 669, 110-117.	2.6	22
68	Transition in the deformation mode of nanocrystalline tantalum processed by high-pressure torsion. Scripta Materialia, 2012, 67, 253-256.	2.6	20
69	ASB induced phase transformation in high oxygen doped commercial purity Ti. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 830, 142321.	2.6	20
70	Compressive responses of ultrafine-grained titanium within a broad range of strain rates and temperatures. Mechanics of Materials, 2017, 115, 22-33.	1.7	19
71	Effect of chamber pressure and atmosphere on the microstructure and nanomechanical properties of amorphous carbon films prepared by pulsed laser deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2001, 19, 311-316.	0.9	16
72	Ultrafine and Nanostructured Refractory Metals Processed by SPD: Microstructure and Mechanical Properties. Materials Science Forum, 2008, 579, 75-90.	0.3	16

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73	Numerical simulations of adiabatic shear localization in textured FCC metal based on crystal plasticity finite element method. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 737, 348-363.	2.6	15
74	Microstructural evolution and hydrogen storage proprieties of melt-spun eutectic Mg76.87Ni12.78Y10.35 alloy with low hydrides formation/decomposition enthalpy. International Journal of Hydrogen Energy, 2020, 45, 16644-16653.	3.8	14
75	Gradient shear banding in a magnesium alloy induced by sliding friction treatment. Vacuum, 2017, 143, 95-97.	1.6	13
76	Insights from the MEDE program: An overview of microstructureâ€“property linkages in the dynamic behaviors of magnesium alloys. Mechanics of Materials, 2021, 163, 104084.	1.7	13
77	Non-conventional hot rolling for improvement of mechanical properties in binary Mg-alloys. Mechanics of Materials, 2022, 164, 104111.	1.7	13
78	Effects of reinforcement morphology on the mechanical behavior of magnesium metal matrix composites based on crystal plasticity modeling. Mechanics of Materials, 2016, 95, 1-14.	1.7	12
79	Quasi-static and dynamic mechanical properties of commercial-purity tungsten processed by ECAE at low temperatures. Journal of Materials Science, 2008, 43, 7379-7384.	1.7	11
80	Mechanical behavior of a lanthanum-doped magnesium alloy at different strain rates. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 626, 108-121.	2.6	11
81	Examining the Effect of Pileup on the Accuracy of Sharp Indentation Testing. Advances in Materials Science and Engineering, 2015, 2015, 1-10.	1.0	10
82	The effect of rolling on the microstructure and compression behavior of AA5083 subjected to large-scale ECAE. Journal of Alloys and Compounds, 2017, 695, 3589-3597.	2.8	10
83	Critical issues related to instrumented indentation on non-uniform materials: Application to niobium subjected to high pressure torsion. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 586, 149-159.	2.6	8
84	The Effect of High Temperature Soaking on the Microstructure and Properties of a Sintered Silicon Nitride. Ceramic Engineering and Science Proceedings, 0, , 3-10.	0.1	8
85	Microstructure evolution accompanying high temperature; uniaxial tensile creep of self-reinforced silicon nitride ceramics. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1999, 272, 380-388.	2.6	7
86	Tungsten-based heterogeneous multilayer structures via diffusion bonding. International Journal of Refractory Metals and Hard Materials, 2020, 92, 105308.	1.7	7
87	Morphological and mechanical stability of HCP-based multilayer nanofilms at elevated temperatures. Surface and Coatings Technology, 2015, 275, 142-147.	2.2	6
88	Microstructures and mechanical properties of Mg/Zr nanostructured multilayers with coherent interface. Thin Solid Films, 2020, 712, 138314.	0.8	6
89	A modified criterion for shear band formation in bulk metallic glass under complex stress states. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 2613-2620.	2.6	5
90	Quasi-static Tensile and Compressive Behavior of Nanocrystalline Tantalum based on Miniature Specimen Testingâ€”Part I: Materials Processing and Microstructure. Jom, 2016, 68, 2832-2838.	0.9	5

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91	Adiabatic shear localization of tungsten based heterogeneous multilayer structures. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 801, 140393.	2.6	5
92	A rate dependent constitutive model for ECAE Cu based on instrumented nanoindentation results. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 597, 279-287.	2.6	4
93	Mechanical properties and failure of ECAE processed Mg97Y2Zn1 at different strain rates. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 762, 138094.	2.6	4
94	Superb high-temperature strength of aluminum-based nanocomposite with supra-nano stacking faults/twins. Composites Communications, 2021, 25, 100753.	3.3	4
95	Doping Induced Internal Stress Reduction in Diamondlike Carbon Films Deposited by Pulsed Laser Ablation. Materials Research Society Symposia Proceedings, 1997, 498, 61.	0.1	3
96	Microstructural changes due to heat-treatment of annealing and their effect on the creep behavior of self-reinforced silicon nitride ceramics. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 299, 141-151.	2.6	3
97	Preface to the special issue on ultrafine-grained materials. Journal of Materials Science, 2014, 49, 6485-6486.	1.7	3
98	Microstructure And Wear Resistance Of Doped Diamondlike Carbon Prepared By Pulsed Laser Deposition. Materials Research Society Symposia Proceedings, 1997, 505, 331.	0.1	2
99	Preparation Of Superhard Functionally Graded Tetrahedral Amorphous Carbon Coatings By Pulsed Laser Deposition. Materials Research Society Symposia Proceedings, 2000, 617, 771.	0.1	2
100	Novel Tungsten Carbide Nanocrystalline Composites by Pulsed Laser Deposition. Materials Research Society Symposia Proceedings, 2000, 634, 611.	0.1	2
101	Quasi-static Tensile and Compressive Behavior of Nanocrystalline Tantalum Based on Miniature Specimen Testingâ€"Part II: Mechanical Properties. Jom, 2016, 68, 2839-2846.	0.9	2
102	Ballistic Performance of Tungsten-Based Heterogeneous Multilayer Structures. Journal of Dynamic Behavior of Materials, 2022, 8, 89-103.	1.1	2
103	Comparison Of Aln Films Synthesized By Pulsed Laser Ablation And Magnetron Sputtering Techniques. Materials Research Society Symposia Proceedings, 1997, 505, 469.	0.1	1
104	Microstructure and IR Range Optical Properties of Pure DLC and DLC Containing Dopants Prepared by Pulsed Laser Deposition. Materials Research Society Symposia Proceedings, 1998, 526, 331.	0.1	1
105	Diamondlike Carbon, Carbon Nitride, and Titanium Nitride Coatings on Metal and Polymer Substrates. Materials Research Society Symposia Proceedings, 1998, 526, 355.	0.1	1
106	Micro- And Nano-Mechanical Behavior of Diamondlike Carbon Containing Foreign Atoms Prepared by Pulsed Laser Deposition. Materials Research Society Symposia Proceedings, 1998, 555, 303.	0.1	1
107	Molecular Dynamics Simulation of Nanocrystalline Tantalum under Uniaxial Tension. Solid State Phenomena, 0, 139, 83-88.	0.3	1
108	High Temperature Uniaxial Creep Behavior of a Sinteredin situ Reinforced Silicon Nitride Ceramics. Ceramic Engineering and Science Proceedings, 0, , 463-470.	0.1	1

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109	Comment on â€œCryoforged nanotwinned titanium with ultrahigh strength and ductilityâ€. Science, 2022, 376, eabo3440.	6.0	1
110	Fabrication and Characterization of Functionally Gradient Diamond-Like Carbon Coatings. Materials Research Society Symposia Proceedings, 1999, 593, 323.	0.1	0
111	Electrical Behavior of Pure and Cu Doped Diamondlike Carbon Prepared by Pulsed Laser Deposition. Materials Research Society Symposia Proceedings, 1999, 593, 377.	0.1	0
112	Fabrication and Characterization of Functionally Gradient Diamondlike Carbon Coatings. Materials Research Society Symposia Proceedings, 1999, 594, 313.	0.1	0
113	Microstructure and Nanomechanical Properties of Amorphous Carbon Thin Films Prepared by Pulsed Laser Deposition in Various Atmospheres. Materials Research Society Symposia Proceedings, 2000, 616, 217.	0.1	0
114	Effect of Film Thickness on the Nanoindentation Measurements of Hard Diamondlike Carbon Films Prepared by Pulsed Laser Deposition. Materials Research Society Symposia Proceedings, 2000, 649, 7201.	0.1	0
115	Ductility of Nanocrystalline Metals: Intrinsic or Extrinsic. Materials Science Forum, 2009, 633-634, 151-164.	0.3	0
116	Mechanical Properties of Mg Alloys AMX602 and AZXE7111 under Quasi-Static and Dynamic Loading. , 2012, , 371-375.		0
117	Adiabatic shear failure of ultrafine grained titanium under impact loading: An in-situ experimental study. Current Mechanics and Advanced Materials, 2022, 02, .	0.1	0
118	Effect of Heat-Treatment on Creep Behavior of a Self-Reinforced Silicon Nitride (Si3N4). Ceramic Engineering and Science Proceedings, 0, , 537-544.	0.1	0