Peng Zhang

List of Publications by Year
in descending order

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112 papers	4,254 citations	117453 34 h-index	128067 60 g-index
116 all docs	116 docs citations	116 times ranked	3217 citing authors

#	ARTICLE	IF	CITATIONS
1	General relationship between strength and hardness. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 529, 62-73.	2.6	799
2	Simultaneous improvement of strength and plasticity: Additional work-hardening from gradient microstructure. Acta Materialia, 2018, 145, 413-428.	3.8	159
3	Low-cycle and extremely-low-cycle fatigue behaviors of high-Mn austenitic TRIP/TWIP alloys: Property evaluation, damage mechanisms and life prediction. Acta Materialia, 2016, 103, 781-795.	3.8	156
4	Influence of shot peening on high cycle fatigue properties of the high-strength wrought magnesium alloy AZ80. Scripta Materialia, 2005, 52, 485-490.	2.6	143
5	Fatigue cracking at twin boundaries: Effects of crystallographic orientation and stacking fault energy. Acta Materialia, 2012, 60, 3113-3127.	3.8	124
6	Revealing the deformation mechanisms of Cuâ€“Al alloys with high strength and good ductility. Acta Materialia, 2016, 110, 61-72.	3.8	111
7	Improvement of low-cycle fatigue resistance in TWIP steel by regulating the grain size and distribution. Acta Materialia, 2017, 134, 128-142.	3.8	111
8	Extremely-low-cycle fatigue behaviors of Cu and Cuâ€“Al alloys: Damage mechanisms and life prediction. Acta Materialia, 2015, 83, 341-356.	3.8	110
9	High strength and utilizable ductility of bulk ultrafine-grained Cuâ€“Al alloys. Applied Physics Letters, 2008, 92, .	1.5	81
10	Notch Effect of Materials: Strengthening or Weakening?. Journal of Materials Science and Technology, 2014, 30, 599-608.	5.6	81
11	A remarkable improvement of low-cycle fatigue resistance of high-Mn austenitic TWIP alloys with similar tensile properties: Importance of slip mode. Acta Materialia, 2016, 118, 196-212.	3.8	78
12	Twin boundary: Stronger or weaker interface to resist fatigue cracking?. Scripta Materialia, 2012, 66, 854-859.	2.6	72
13	Controllable fatigue cracking mechanisms of copper bicrystals with a coherent twin boundary. Nature Communications, 2014, 5, 3536.	5.8	72
14	Optimizing strength and ductility of Cuâ€“Zn alloys through severe plastic deformation. Scripta Materialia, 2012, 67, 871-874.	2.6	71
15	Microstructures, strengthening mechanisms and fracture behavior of Cuâ€“Ag alloys processed by high-pressure torsion. Acta Materialia, 2012, 60, 269-281.	3.8	71
16	Twin boundaries: Strong or weak?. Scripta Materialia, 2008, 59, 1131-1134.	2.6	66
17	Exploring the fatigue strength improvement of Cu-Al alloys. Acta Materialia, 2018, 144, 613-626.	3.8	66
18	Effects of dislocation slip mode on high-cycle fatigue behaviors of ultrafine-grained Cuâ€“Zn alloy processed by equal-channel angular pressing. Scripta Materialia, 2013, 68, 389-392.	2.6	62

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19	Improving the fatigue strength of 7075 alloy through aging. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 738, 24-30.	2.6	54
20	Improved fatigue properties of ultrafine-grained copper under cyclic torsion loading. Acta Materialia, 2013, 61, 5857-5868.	3.8	49
21	Distinct fatigue cracking modes of grain boundaries with coplanar slip systems. Acta Materialia, 2016, 120, 120-129.	3.8	49
22	Competition between slip and twinning in face-centered cubic metals. Journal of Applied Physics, 2014, 116, .	1.1	48
23	High-cycle fatigue properties and damage mechanisms of pre-strained Fe-30Mn-0.9C twinning-induced plasticity steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 679, 258-271.	2.6	45
24	Simultaneous improvement in strength and plasticity of Ti-24Nb-4Zr-8Sn manufactured by selective laser melting. Materials and Design, 2018, 157, 52-59.	3.3	45
25	Crack propagation mechanisms of AISI 4340 steels with different strength and toughness. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 729, 130-140.	2.6	44
26	Strength, damage and fracture behaviors of high-nitrogen austenitic stainless steel processed by high-pressure torsion. Scripta Materialia, 2015, 96, 5-8.	2.6	42
27	Optimizing the fatigue strength of 18Ni maraging steel through ageing treatment. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 707, 674-688.	2.6	42
28	The premature necking of twinning-induced plasticity steels. Acta Materialia, 2017, 136, 1-10.	3.8	41
29	Varying tensile fracture mechanisms of Cu and Cuâ€"Zn alloys with reduced grain size: From necking to shearing instability. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 594, 309-320.	2.6	39
30	The quantitative relationship between fracture toughness and impact toughness in high-strength steels. Engineering Fracture Mechanics, 2019, 211, 362-370.	2.0	39
31	Effect of crystallographic orientation and grain boundary character on fatigue cracking behaviors of coaxial copper bicrystals. Acta Materialia, 2013, 61, 425-438.	3.8	38
32	Microcompression and cyclic deformation behaviors of coaxial copper bicrystals with a single twin boundary. Scripta Materialia, 2013, 69, 199-202.	2.6	36
33	Recovery of strain-hardening rate in Ni-Si alloys. Scientific Reports, 2015, 5, 15532.	1.6	36
34	Higher fatigue cracking resistance of twin boundaries than grain boundaries in Cu bicrystals. Scripta Materialia, 2011, 65, 505-508.	2.6	35
35	Intrinsic impact toughness of relatively high strength alloys. Acta Materialia, 2018, 142, 226-235.	3.8	35
36	Strain localization and fatigue cracking behaviors of Cu bicrystal with an inclined twin boundary. Acta Materialia, 2014, 73, 167-176.	3.8	34

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37	Generalized energy failure criterion. Scientific Reports, 2016, 6, 23359.	1.6	34
38	Fatigue strength plateau induced by microstructure inhomogeneity. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 702, 259-264.	2.6	34
39	Optimizing strength and ductility of austenitic stainless steels through equal-channel angular pressing and adding nitrogen element. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 587, 185-191.	2.6	33
40	Effects of inclusion types on the high-cycle fatigue properties of high-strength steel. Scripta Materialia, 2022, 206, 114232.	2.6	33
41	A practical model for efficient anti-fatigue design and selection of metallic materials: I. Model building and fatigue strength prediction. Journal of Materials Science and Technology, 2021, 70, 233-249.	5.6	28
42	Dislocation arrangements within slip bands during fatigue cracking. Materials Characterization, 2018, 145, 96-100.	1.9	26
43	Exceptional high fatigue strength in Cu-15at.%Al alloy with moderate grain size. Scientific Reports, 2016, 6, 27433.	1.6	25
44	Low-cycle fatigue-cracking mechanisms in fcc crystalline materials. Philosophical Magazine, 2011, 91, 229-249.	0.7	24
45	Cyclic softening behaviors of ultra-fine grained Cu-Zn alloys. Acta Materialia, 2016, 121, 331-342.	3.8	24
46	Cyclic deformation and fatigue cracking behaviour of polycrystalline Cu, Cuâ€“10 wt% Zn and Cuâ€“32 wt% Zn. Philosophical Magazine, 2008, 88, 2487-2503.	0.7	23
47	Twin boundary: Controllable interface to fatigue cracking. Journal of Materials Science and Technology, 2017, 33, 603-606.	5.6	23
48	The synchronous improvement of strength and plasticity (SISP) in new Ni-Co based disc superalloys by controling stacking fault energy. Scientific Reports, 2017, 7, 8046.	1.6	23
49	Surface strengthening behaviors of four structural steels processed by surface spinning strengthening. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 704, 262-273.	2.6	23
50	Microstructure and Mechanical Properties of High-Nitrogen Austenitic Stainless Steels Subjected to Equal-Channel Angular Pressing. Acta Metallurgica Sinica (English Letters), 2016, 29, 140-149.	1.5	22
51	Synchronous improvement of the strength and plasticity of Ni-Co based superalloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 736, 100-104.	2.6	22
52	A practical model for efficient anti-fatigue design and selection of metallic materials: II. Parameter analysis and fatigue strength improvement. Journal of Materials Science and Technology, 2021, 70, 250-267.	5.6	22
53	Size Effects on the Mechanical Properties of Nanoporous Graphene Networks. Advanced Functional Materials, 2019, 29, 1900311.	7.8	20
54	Evaluating the fatigue cracking risk of surface strengthened 50CrMnMoVNb spring steel with abnormal life time distribution. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 732, 192-204.	2.6	19

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55	The Relationship between Strength and Toughness in Tempered Steel: Tradeâ€Off or Invariable?. Advanced Engineering Materials, 2019, 21, 1801116.	1.6	19
56	Intrinsically higher fatigue cracking resistance of the penetrable and movable incoherent twin boundary. Scientific Reports, 2014, 4, 3744.	1.6	18
57	Synchronously improved fatigue strength and fatigue crack growth resistance in twinning-induced plasticity steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 711, 533-542.	2.6	18
58	New method for determining <i>P</i>â€<i>S</i>â€<i>N</i> curves in terms of equivalent fatigue lives. Fatigue and Fracture of Engineering Materials and Structures, 2019, 42, 2340-2353.	1.7	18
59	Investigation on the cracking resistances of different ageing treated 18Ni maraging steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 771, 138553.	2.6	18
60	Predicting the variation of stacking fault energy for binary Cu alloys by first-principles calculations. Journal of Materials Science and Technology, 2020, 53, 61-65.	5.6	18
61	Nanoparticle additions promote outstanding fracture toughness and fatigue strength in a cast Alâ€“Cu alloy. Materials and Design, 2020, 186, 108221.	3.3	17
62	Predictive fatigue crack growth law of high-strength steels. Journal of Materials Science and Technology, 2022, 100, 46-50.	5.6	17
63	Examining the effect of the aging state on strength and plasticity of wrought aluminum alloys. Journal of Materials Science and Technology, 2022, 122, 54-67.	5.6	17
64	Fatigue Behavior of Alâ€Cu Alloy Subjected to Different Numbers of ECAP Passes. Advanced Engineering Materials, 2007, 9, 860-866.	1.6	16
65	Fatigue cracking and fracture behaviors of coarse-grained copper under cyclic tensionâ€“compression and torsion loadings. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 574, 113-122.	2.6	16
66	Improving the fatigue strength of A7N01 aluminum alloy by adjusting Si content. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 742, 15-22.	2.6	16
67	Effect of Build Direction on Fatigue Performance of L-PBF 316L Stainless Steel. Acta Metallurgica Sinica (English Letters), 2020, 33, 539-550.	1.5	16
68	Relationship between strength and uniform elongation of metals based on an exponential hardening law. Acta Materialia, 2022, 231, 117866.	3.8	16
69	Butterfly effect in low-cycle fatigue: Importance of microscopic damage mechanism. Scripta Materialia, 2017, 140, 76-81.	2.6	15
70	An optimization criterion for fatigue strength of metallic materials. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 736, 105-110.	2.6	15
71	Improving the high-cycle fatigue properties of twinning-induced plasticity steel by a novel surface treatment process. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 740-741, 28-33.	2.6	15
72	Microstructure and fatigue behavior of laser-powder bed fusion austenitic stainless steel. Journal of Materials Science and Technology, 2020, 46, 191-200.	5.6	15

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73	Improving the high-cycle fatigue life of a high-strength spring steel for automobiles by suitable shot peening and heat treatment. International Journal of Fatigue, 2022, 161, 106891.	2.8	15
74	Tensile Fracture Modes in Fe-22Mn-0.6C and Fe-30Mn-3Si-3Al Twinning-Induced Plasticity (TWIP) Steels. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 4458-4462.	1.1	14
75	Analytic approximations for the elastic moduli of two-phase materials. Physical Review B, 2017, 95, .	1.1	14
76	Stepwise work hardening induced by individual grain boundary in Cu bicrystal micropillars. Scientific Reports, 2015, 5, 15631.	1.6	13
77	High-cycle fatigue behavior of TWIP steel with graded grains: breaking the rule of mixture. Materials Research Letters, 2019, 7, 26-32.	4.1	13
78	The anisotropy and diverse mechanical properties of rolled Mgâ€“3% Alâ€“1% Zn alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 618, 523-532.	2.6	12
79	Fatigue cracking at twin boundary: Effect of dislocation reactions. Applied Physics Letters, 2012, 101, 011907.	1.5	11
80	Difference in fatigue cracking behaviors of Cu bicrystals with the same component grains but different twin boundaries. Scripta Materialia, 2015, 95, 19-22.	2.6	11
81	The Minimum Energy Density Criterion for the Competition between Shear and Flat Fracture. Advanced Engineering Materials, 2018, 20, 1800150.	1.6	11
82	Declined Fatigue Crack Propagation Rate of a Highâ€•Strength Steel by Electropulsing Treatment. Advanced Engineering Materials, 2019, 21, 1801345.	1.6	11
83	Forecasting Low-Cycle Fatigue Performance of Twinning-Induced Plasticity Steels: Difficulty and Attempt. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 5833-5848.	1.1	10
84	Improvement of notch fatigue properties of ultra-high CM400 maraging steel through shot peening. Journal of Materials Research, 2017, 32, 4424-4432.	1.2	10
85	A new fatigue crack growth mechanism of high-strength steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 840, 142969.	2.6	10
86	A general physics-based hardening law for single phase metals. Acta Materialia, 2022, 231, 117877.	3.8	10
87	Shear fatigue cracking of twin boundary and grain boundary without dislocation impingement. Scripta Materialia, 2015, 100, 28-31.	2.6	9
88	Material-independent stress ratio effect on the fatigue crack growth behavior. Engineering Fracture Mechanics, 2022, 259, 108116.	2.0	9
89	A simultaneous improvement of the strength and plasticity of spring steels by replacing Mo with Si. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 820, 141516.	2.6	8
90	In situ bending of layered compounds: The role of anisotropy in Ti2AlC microcantilevers. Scripta Materialia, 2014, 89, 21-24.	2.6	7

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91	Thermal Cycling Effect on the Wear Resistance of Bionic Laser Processed Gray Iron. Journal of Bionic Engineering, 2014, 11, 288-295.	2.7	7
92	Mechanical Properties and Tensile Fracture Mechanisms of Feâ€“Mnâ€“(Al, Si) TRIP/TWIP Steels with Different Ferrite Volume Fractions. Advanced Engineering Materials, 2015, 17, 1675-1682.	1.6	7
93	A new method to estimate the plane strain fracture toughness of materials. Fatigue and Fracture of Engineering Materials and Structures, 2019, 42, 415-424.	1.7	7
94	Crack propagation behavior and mechanism of coarse-grained copper in cyclic torsion with axial static tension. International Journal of Fatigue, 2020, 131, 105304.	2.8	7
95	A fast evaluation method for fatigue strength of maraging steel: The minimum strength principle. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 789, 139659.	2.6	7
96	Fatigue Crack Growth Behavior and Fracture Toughness of EH36 TMCP Steel. Materials, 2021, 14, 6621.	1.3	7
97	Tensile Deformation Behaviors of Cuï£¿Ni Alloy Processed by Equal Channel Angular Pressing. Advanced Engineering Materials, 2010, 12, 304-311.	1.6	6
98	Effect of Pre-strain on the Solute Clustering, Mechanical Properties, and Work-Hardening of a Naturally Aged Al-Cu-Mg Alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 4121-4134.	1.1	6
99	The synchronous improvement of the strength and plasticity of Ni alloys assisted by vacancies. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 680, 405-410.	2.6	6
100	Torsional Fatigue Cracking and Fracture Behaviors of Cold-Drawn Copper: Effects of Microstructure and Axial Stress. Acta Metallurgica Sinica (English Letters), 2019, 32, 1521-1529.	1.5	6
101	Short fatigue crack growth behavior in 18Ni marageing steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 807, 140844.	2.6	6
102	Deformation behaviors of Cu bicrystals with an inclined twin boundary at multiple scales. Journal of Materials Science and Technology, 2017, 33, 698-702.	5.6	5
103	Formation of nanograins in Ni-Co based superalloys compressed quasistatically at high temperature. Scripta Materialia, 2017, 136, 92-96.	2.6	4
104	Effective Stacking Fault Energy in Face-Centered Cubic Metals. Acta Metallurgica Sinica (English) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 2	1.5	4
105	Temperature-Dependence of the Mechanical Responses for Two Types of Twinning-Induced Plasticity Steels. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 1475-1480.	1.1	4
106	Locating the optimal microstructural state against dynamic perforation by evaluating the strain-rate dependences of strength and hardness. International Journal of Impact Engineering, 2021, 152, 103856.	2.4	4
107	Different effects of multiscale microstructure on fatigue crack growth path and rate in selective laser melted Ti6Al4V. Fatigue and Fracture of Engineering Materials and Structures, 2022, 45, 2457-2467.	1.7	4
108	The dissociation behavior of dislocation arrays in face centered cubic metals. Computational Materials Science, 2016, 124, 384-389.	1.4	2

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109	Effects of Heat Treatment on Fatigue Properties of Double Vacuum Smelting Highâ€Carbon Chromiumâ€Bearing Steel. Advanced Engineering Materials, 2022, 24, .	1.6	2
110	A novel top-down approach to make bulk nanostructured metal with low stacking fault energy. Materialia, 2019, 5, 100201.	1.3	1
111	A Study on the Surface Integrity of 50CrMnMoVNb Spring Steels with Different Matrix Strengths Processed by Shot Peening. Advanced Engineering Materials, 2021, 23, 2100444.	1.6	1
112	The effect of microstructure inhomogeneity on fatigue property of EA4T axle steel. Steel Research International, 0, , .	1.0	0