Zh Nie

List of Publications by Year
in descending order

113 papers	3,588 citations	159525 30 h-index	149623 56 g-index
113 all docs	113 docs citations	113 times ranked	3115 citing authors

#	Article	IF	Citations
1	Preparation and application of magnetic Fe3O4 nanoparticles for wastewater purification. Separation and Purification Technology, 2009, 68, 312-319.	3.9	476
2	Colossal Elastocaloric Effect in Ferroelastic Ni-Mn-Ti Alloys. Physical Review Letters, 2019, 122, 255703.	2.9	245
3	An in situ high-energy X-ray diffraction study of micromechanical behavior of multiple phases in advanced high-strength steels. Acta Materialia, 2009, 57, 3965-3977.	3.8	181
4	Giant and reversible room-temperature magnetocaloric effect in Ti-doped Ni-Co-Mn-Sn magnetic shape memory alloys. Acta Materialia, 2017, 134, 236-248.	3.8	145
5	Tailoring size and structural distortion of Fe3O4 nanoparticles for the purification of contaminated water. Bioresource Technology, 2009, 100, 4139-4146.	4.8	142
6	Enhanced cyclability of elastocaloric effect in boron-microalloyed Ni-Mn-In magnetic shape memory alloys. Acta Materialia, 2017, 127, 33-42.	3.8	140
7	Simultaneously achieved large reversible elastocaloric and magnetocaloric effects and their coupling in a magnetic shape memory alloy. Acta Materialia, 2018, 151, 41-55.	3.8	120
8	Unprecedented non-hysteretic superelasticity of [001]-oriented NiCoFeGa single crystals. Nature Materials, 2020, 19, 712-718.	13.3	95
9	Reversible deformation-induced martensitic transformation in Al0.6CoCrFeNi high-entropy alloy investigated by in situ synchrotron-based high-energy X-ray diffraction. Acta Materialia, 2017, 128, 12-21.	3.8	93
10	Large tunable elastocaloric effect in additively manufactured Niâ€“Ti shape memory alloys. Acta Materialia, 2020, 194, 178-189.	3.8	87
11	Large reversible magnetocaloric effect in a Ni-Co-Mn-In magnetic shape memory alloy. Applied Physics Letters, 2016, 108, .	1.5	84
12	Low-field-actuated giant magnetocaloric effect and excellent mechanical properties in a NiMn-based multiferroic alloy. Acta Materialia, 2018, 146, 142-151.	3.8	66
13	Large elastocaloric effect in a Niâ€“Coâ€“Mnâ€“Sn magnetic shape memory alloy. Materials and Design, 2016, 92, 932-936.	3.3	63
14	Large elastocaloric effect in a polycrystalline Ni45.7Co4.2Mn37.3Sb12.8 alloy with low transformation strain. Scripta Materialia, 2019, 162, 486-491.	2.6	61
15	New intrinsic mechanism on gum-like superelasticity of multifunctional alloys. Scientific Reports, 2013, 3, 2156.	1.6	57
16	Large magnetic entropy change and magnetoresistance in a Ni41Co9Mn40Sn10 magnetic shape memory alloy. Journal of Alloys and Compounds, 2015, 647, 1081-1085.	2.8	54
17	Wide-temperature-range perfect superelasticity and giant elastocaloric effect in a high entropy alloy. Materials Research Letters, 2019, 7, 482-489.	4.1	51
18	Structural transition of ferromagnetic Ni2MnGa nanoparticles. Journal of Applied Physics, 2007, 101, 063530.	1.1	48

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19	Superelasticity by reversible variants reorientation in a Niâ€“Mnâ€“Ga microwire with bamboo grains. Acta Materialia, 2015, 99, 373-381.	3.8	44
20	Outstanding caloric performances for energy-efficient multicaloric cooling in a Ni-Mn-based multifunctional alloy. Acta Materialia, 2019, 177, 46-55.	3.8	44
21	In situ high-energy X-ray studies of magnetic-field-induced phase transition in a ferromagnetic shape memory Niâ€“Coâ€“Mnâ€“In alloy. Acta Materialia, 2008, 56, 913-923.	3.8	42
22	Ultrahigh cyclability of a large elastocaloric effect in multiferroic phase-transforming materials. Materials Research Letters, 2019, 7, 137-144.	4.1	41
23	Giant magnetocaloric effect in MnCoGe with minimal Ga substitution. Journal of Magnetism and Magnetic Materials, 2015, 387, 107-110.	1.0	40
24	Correlation between dislocation-density-based strain hardening and microstructural evolution in dual phase TC6 titanium alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 715, 101-107.	2.6	38
25	Direct evidence on magnetic-field-induced phase transition in a NiCoMnIn ferromagnetic shape memory alloy under a stress field. Applied Physics Letters, 2007, 90, 101917.	1.5	34
26	Crystal structural transformation accompanied by magnetic transition in MnCo1â^'Fe Ge alloys. Intermetallics, 2014, 52, 101-104.	1.8	34
27	Effect of reverse Î²-to-Ï‰ transformation on twinning and martensitic transformation in a metastable Î² titanium alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 759, 680-687.	2.6	33
28	The dynamic response of the metastable Î² titanium alloy Ti-2Al-9.2Mo-2Fe at ambient temperature. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 751, 191-200.	2.6	33
29	Transition in superelasticity for Ni _{55â^'x} Co _x Fe ₁₈ Ga ₂₇ alloys due to strain glass transition. Europhysics Letters, 2012, 98, 46004.	0.7	32
30	First-order magnetostructural transformation in Fe doped Mnâ€“Coâ€“Ge alloys. Journal of Alloys and Compounds, 2013, 577, 486-490.	2.8	32
31	Burst-like superelasticity and elastocaloric effect in [011] oriented Ni50Fe19Ga27Co4 single crystals. Scripta Materialia, 2018, 149, 6-10.	2.6	31
32	High-energy X-ray diffuse scattering studies on deformation-induced spatially confined martensitic transformations in multifunctional Tiâ€“24Nbâ€“4Zrâ€“8Sn alloy. Acta Materialia, 2014, 81, 476-486.	3.8	29
33	Elastic plastic deformation of TC6 titanium alloy analyzed by in-situ synchrotron based X-ray diffraction and microstructure based finite element modeling. Journal of Alloys and Compounds, 2016, 688, 787-795.	2.8	29
34	Enhanced reactivity of Ni-Al reactive material formed by cold spraying combined with cold-pack rolling. Journal of Alloys and Compounds, 2018, 741, 883-894.	2.8	29
35	A high-entropy high-temperature shape memory alloy with large and complete superelastic recovery. Materials Research Letters, 2021, 9, 263-269.	4.1	29
36	Tensile deformation behavior of a near-Î± titanium alloy Ti-6Al-2Zr-1Mo-1V under a wide temperature range. Journal of Materials Research and Technology, 2020, 9, 2818-2831.	2.6	28

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37	Abundant polymorphic transitions in the Al0.6CoCrFeNi high-entropy alloy. Materials Today Physics, 2019, 8, 1-9.	2.9	27
38	Phase-stress partition and stress-induced martensitic transformation in NbTi/NiTi nanocomposite. Applied Physics Letters, 2011, 99, 084103.	1.5	23
39	New Sequences of Phase Transition in Ni-Mn-Ga Ferromagnetic Shape Memory Nanoparticles. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2008, 39, 466-469.	1.1	22
40	In-situ studies of stress- and magnetic-field-induced phase transformation in a polymer-bonded Niâ€“Coâ€“Mnâ€“In composite. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 3561-3571.	2.6	22
41	Evolution of residual stress, free volume, and hardness in the laser shock peened Ti-based metallic glass. Materials and Design, 2016, 111, 473-481.	3.3	22
42	Effect of Î± phase on high-strain rate deformation behavior of laser melting deposited Ti-6.5Al-1Mo-1V-2Zr titanium alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 750, 81-90.	2.6	22
43	Low Temperature Deformation Detwinningâ€”A Reverse Mode of Twinning. Advanced Engineering Materials, 2010, 12, 906-911.	1.6	21
44	Work-hardening behavior, strain rate sensitivity, and failure behavior of in situ CuZr-based metallic glass matrix composite. Journal of Materials Science, 2016, 51, 5992-6001.	1.7	21
45	Stable elastocaloric effect under tensile stress of iron-palladium alloy and its in situ X-ray observation. Acta Materialia, 2016, 118, 88-94.	3.8	21
46	Low-hysteresis tensile superelasticity in a Ni-Co-Mn-Sn magnetic shape memory microwire. Journal of Alloys and Compounds, 2017, 728, 655-658.	2.8	21
47	Giant negative thermal expansion in Fe-Mn-Ga magnetic shape memory alloys. Applied Physics Letters, 2018, 113, .	1.5	19
48	Microstructure and growth mechanism of tungsten carbide coatings by atmospheric CVD. Surface and Coatings Technology, 2018, 344, 85-92.	2.2	18
49	Dynamic response of Ti-6.5Alâ€“1Moâ€“1Vâ€“2Zr-0.1B alloy fabricated by wire arc additive manufacturing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 800, 140310.	2.6	18
50	Structural investigations of Fe-Ga alloys by high-energy x-ray diffraction. Journal of Alloys and Compounds, 2018, 763, 223-227.	2.8	17
51	An in situ neutron diffraction study of anomalous superelasticity in a strain glass Ni₄₃Fe₁₈Ga₂₇Co₁₂ alloy. Journal of Applied Crystallography, 2015, 48, 1183-1191.	1.9	16
52	Effect of grain boundary misorientation angle on diffusion behavior in molybdenum-tungsten systems. Journal of Alloys and Compounds, 2020, 819, 152975.	2.8	15
53	A Low-Cost Niâ€“Mnâ€“Tiâ€“B High-Temperature Shape Memory Alloy with Extraordinary Functional Properties. ACS Applied Materials & Interfaces, 2021, 13, 31870-31879.	4.0	15
54	Magnetic field-induced magnetostructural transition and huge tensile superelasticity in an oligocrystalline Niâ€“Cuâ€“Coâ€“Mnâ€“In microwire. IUCrJ, 2019, 6, 843-853.	1.0	15

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55	Local chemical fluctuation mediated ultra-sluggish martensitic transformation in high-entropy intermetallics. Materials Horizons, 2022, 9, 804-814.	6.4	15
56	Determination of the single-phase constitutive relations of Î±/Î² dual phase TC6 titanium alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 675, 138-146.	2.6	14
57	Evolution of Î² Mg17Al12 in Mg Al Zn Ag alloy over time. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 754, 470-478.	2.6	14
58	Low-field large magnetostriction in DyCo2 due to field-induced rearrangement of tetragonal variants. Applied Physics Letters, 2013, 103, 111903.	1.5	13
59	Direct evidence for stress-induced transformation between coexisting multiple martensites in a Niâ€“Mnâ€“Ga multifunctional alloy. Journal Physics D: Applied Physics, 2015, 48, 265304.	1.3	13
60	Thermal Residual Stresses in W Fibers/Zr-based Metallic Glass Composites by High-energy Synchrotron X-ray Diffraction. Journal of Materials Science and Technology, 2015, 31, 159-163.	5.6	13
61	On the tungsten single crystal coatings achieved by chemical vapor transportation deposition. Materials Characterization, 2016, 122, 36-44.	1.9	13
62	In-situ studies of low-field large magnetostriction in Tb1â^'xDyxFe2 compounds by synchrotron-based high-energy x-ray diffraction. Journal of Alloys and Compounds, 2016, 658, 372-376.	2.8	13
63	Large room-temperature elastocaloric effect in a bulk polycrystalline Ni-Ti-Cu-Co alloy with low isothermal stress hysteresis. Applied Materials Today, 2020, 21, 100844.	2.3	13
64	Effect of second phase particles on the dynamic recrystallization in Ni-W alloys during thermal compression. Journal of Alloys and Compounds, 2021, 865, 158872.	2.8	13
65	Strain-induced dimensionality crossover and associated pseudoelasticity in the premartensitic phase of Ni2MnGa. Applied Physics Letters, 2010, 97, 171905.	1.5	12
66	Studies of intergranular and intragranular stresses in cold-rolled CuNiSi alloys. Journal of Alloys and Compounds, 2020, 818, 152896.	2.8	12
67	Ï‰ precipitation: Deformation regulator in metastable titanium alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 772, 138687.	2.6	12
68	Energy Release Characteristics of Niâ€“Alâ€“CuO Ternary Energetic Structural Material Processed by Cold Spraying. Journal of Thermal Spray Technology, 2020, 29, 1070-1081.	1.6	12
69	Direct evidence of detwinning in polycrystalline Niâ€“Mnâ€“Ga ferromagnetic shape memory alloys during deformation. Journal of Applied Physics, 2008, 104, 103519.	1.1	9
70	The suppression and recovery of martensitic transformation in a Niâ€“Coâ€“Mnâ€“In magnetic shape memory alloy. Journal of Alloys and Compounds, 2012, 511, 41-44.	2.8	9
71	Stress transfer during different deformation stages in a nano-precipitate-strengthened Ni-Ti shape memory alloy. Applied Physics Letters, 2015, 107, .	1.5	9
72	Temperature dependence of micro-deformation behavior of the porous tungsten/Zr-based metallic glass composite. Journal of Non-Crystalline Solids, 2016, 436, 9-17.	1.5	9

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73	Observation of magnetic-field-induced transformation in MnCo0.78Fe0.22Ge alloys with colossal strain output and large magnetocaloric effect. Journal of Magnetism and Magnetic Materials, 2016, 406, 179-183.	1.0	9
74	Degradation Behavior, Transport Mechanism and Osteogenic Activity of Mgâ€“Znâ€“RE Alloy Membranes in Critical-Sized Rat Calvarial Defects. Coatings, 2020, 10, 496.	1.2	9
75	Influence of Al12Mg17 Additive on Performance of Cold-Sprayed Ni-Al Reactive Material. Journal of Thermal Spray Technology, 2019, 28, 780-793.	1.6	8
76	In situ investigation of the deformation behaviors of Fe20Co30Cr25Ni25 and Fe20Co30Cr30Ni20 high entropy alloys by high-energy X-ray diffraction. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 795, 139936.	2.6	8
77	Improved fracture behavior and microstructural characterization of heterogeneous-structured tungsten. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 805, 140813.	2.6	8
78	Evidence for preferential rearrangements of martensite variants by magnetic field in antiferromagnetic CoO crystal. Applied Physics Letters, 2009, 95, 051914.	1.5	7
79	Interface coherency strain relaxation due to plastic deformation in single crystal Ni-base superalloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 568, 83-87.	2.6	7
80	Effect of the metallic glass volume fraction on the mechanical properties of Zr-based metallic glass reinforced with porous W composite. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 561, 152-158.	2.6	7
81	Microstructures of chemical vapor deposited high-purity tungsten achieved by two different precursors. Materials Characterization, 2017, 134, 1-8.	1.9	7
82	Intergranular stress study of TC11 titanium alloy after laser shock peening by synchrotron-based high-energy X-ray diffraction. AIP Advances, 2018, 8, 055126.	0.6	7
83	Phase Transition and Texture Evolution in the Ni-Mn-Ga Ferromagnetic Shape-Memory Alloys Studied by a Neutron Diffraction Technique. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2008, 39, 3113-3119.	1.1	6
84	Formation of Deformation Textures in Face-Centered-Cubic Materials Studied by In-Situ High-Energy X-Ray Diffraction and Self-Consistent Model. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2010, 41, 1246-1254.	1.1	6
85	Structural Transitions and Magnetic Properties of Ni50Mn36.7In13.3 Particles with Amorphous-Like Phase. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 3062-3070.	1.1	6
86	High-Energy Synchrotron X-Ray Diffraction for InÂSitu Study of Phase Transformation in Shape-Memory Alloys. Jom, 2012, 64, 150-160.	0.9	6
87	Micro-deformation mechanism of Zr-based metallic glass/porous tungsten composite by in-situ high-energy X-ray diffraction and finite element modeling. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 598, 407-412.	2.6	6
88	Evidence for a short-range chemical order of Ge atoms and its critical role in inducing a giant magnetocaloric effect in Gd5Si1.5Ge2.5. Journal of Alloys and Compounds, 2019, 808, 151751.	2.8	6
89	Magnetic transitions and magnetocaloric effect of Gd4Nd1Si2Ge2. Journal of Alloys and Compounds, 2020, 826, 154117.	2.8	6
90	Enhanced negative thermal expansion of boron-doped Fe43Mn28Ga28.97B0.03 alloy. Journal of Alloys and Compounds, 2021, 857, 157572.	2.8	6

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91	Large internal stress-assisted twin-boundary motion in Ni2MnGa ferromagnetic shape memory alloy. Applied Physics Letters, 2011, 99, .	1.5	5
92	High Pressure Induced in Situ Solid-State Phase Transformation of Nonepitaxial Grown Metal@Semiconductor Nanocrystals. Journal of Physical Chemistry Letters, 2018, 9, 6544-6549.	2.1	5
93	Cell and dendrite growth of tungsten by atmospheric pressure chemical vapor deposition. Journal of Alloys and Compounds, 2022, 922, 166161.	2.8	5
94	Interface stress development in the Cu/Ag nanostructured multilayered film during the tensile deformation. Applied Physics Letters, 2014, 105, .	1.5	4
95	Stress-induced reverse martensitic transformation in a Ti-51Ni (at%) alloy aged under uniaxial stress. Scientific Reports, 2018, 8, 6099.	1.6	4
96	In-situ synchrotron X-ray diffraction study of dual-step strain variation in laser shock peened metallic glasses. Scripta Materialia, 2018, 149, 112-116.	2.6	4
97	The anomalous staircase-like magnetization behavior and giant magnetocaloric effect in a Feâ€“Mn-Ga magnetic shape memory alloy. Intermetallics, 2020, 127, 106975.	1.8	4
98	Enhancement of mechanical properties in FeCo magnetostrictive alloys with an addition of NiMn. Intermetallics, 2021, 131, 107128.	1.8	4
99	Effects of inorganic ions, organic particles, blood cells, and cyclic loading on in vitro corrosion of Mg Al alloys. Journal of Magnesium and Alloys, 2023, 11, 2429-2441.	5.5	4
100	Micro-mechanical behavior of porous tungsten/Zr-based metallic glass composite under cyclic compression. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 643, 55-63.	2.6	3
101	Strain-induced dimensionality crossover of precursor modulations in Ni2MnGa. Applied Physics Letters, 2015, 106, 021910.	1.5	3
102	Mechanical response and microstructural evolution of Ni-27ÂW alloys during uniaxial tension. Journal of Alloys and Compounds, 2022, 891, 161972.	2.8	3
103	In situneutron diffraction study of micromechanical interactions and phase transformation in Niâ€“Mnâ€“Ga alloy under uniaxial and hydrostatic stress. Journal of Physics Condensed Matter, 2008, 20, 104256.	0.7	2
104	Evidence of two-length-scale kinetics of R-phase transformation by high-energy X-ray diffraction. Scripta Materialia, 2010, 62, 617-620.	2.6	2
105	Flexible Bamboo-Structured NiCoMnIn Microfibers with Magnetic-Field-Induced Reverse Martensite Transformation. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 3581-3584.	1.1	2
106	In-situ studies of large magnetostriction in DyCo2 compound by synchrotron-based high-energy X-ray diffraction. Journal of Alloys and Compounds, 2017, 724, 1030-1036.	2.8	2
107	The effect of Ag on the growth of intermetallics at the interface of Sn5Zn/Cu interconnects. Materials Today Communications, 2020, 24, 100960.	0.9	2
108	Development of Fe100-(NiCoMn) magnetostrictive alloys with good mechanical properties. Journal of Alloys and Compounds, 2019, 810, 151931.	2.8	1

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109	Microstructure, Residual Stress and Corrosion Resistance in Electrodeposited Copper Foils. Lecture Notes in Mechanical Engineering, 2018, , 345-351.	0.3	1
110	Magnetic-field-driven reversal phase transition in highly textured and self-accommodated martensites of Niâ€“Coâ€“Mnâ€“In composite. Journal of Strain Analysis for Engineering Design, 2011, 46, 607-613.	1.0	0
111	Microstructures and Kinetics of Tungsten Coating Deposited by Chemical Vapor Transport. Key Engineering Materials, 2019, 815, 70-80.	0.4	0
112	Effect of Î±/Î² Forging on Microstructure and Texture Inhomogeneity in a Ti-1023 Forged Disk. Materials Research, 2019, 22, .	0.6	0
113	Influences of Extrusion and Silver Content on the Degradation of Mg-Ag Alloys In Vitro and In Vivo. Bioinorganic Chemistry and Applications, 2022, 2022, 1-19.	1.8	0