

Shengcheng Mao

List of Publications by Year in descending order

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68
papers

1,936
citations

331259

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docs citations

68
times ranked

1842
citing authors

#	ARTICLE	IF	CITATIONS
1	Microstructural and compositional design of Ni-based single crystalline superalloys • A review. <i>Journal of Alloys and Compounds</i> , 2018, 743, 203-220.	2.8	288
2	A Transforming Metal Nanocomposite with Large Elastic Strain, Low Modulus, and High Strength. <i>Science</i> , 2013, 339, 1191-1194.	6.0	241
3	Synthesis of layered double hydroxides/graphene oxide nanocomposite as a novel high-temperature CO ₂ adsorbent. <i>Journal of Energy Chemistry</i> , 2015, 24, 127-137.	7.1	121
4	Cloning Nacre's 3D Interlocking Skeleton in Engineering Composites to Achieve Exceptional Mechanical Properties. <i>Advanced Materials</i> , 2016, 28, 5099-5105.	11.1	119
5	A novel HfNbTaTiV high-entropy alloy of superior mechanical properties designed on the principle of maximum lattice distortion. <i>Journal of Materials Science and Technology</i> , 2021, 79, 109-117.	5.6	83
6	Effect of lattice misfit on the evolution of the dislocation structure in Ni-based single crystal superalloys during thermal exposure. <i>Acta Materialia</i> , 2016, 120, 95-107.	3.8	79
7	Hierarchical grain size and nanotwin gradient microstructure for improved mechanical properties of a non-equiatomic CoCrFeMnNi high-entropy alloy. <i>Journal of Materials Science and Technology</i> , 2021, 92, 195-207.	5.6	68
8	Ultra-high Photocatalytic Rate at a Single-Metal-Atom-Oxide. <i>Advanced Materials</i> , 2019, 31, e1903491.	11.1	53
9	Shearing mechanisms of stacking fault and anti-phase-boundary forming dislocation pairs in the γ^2 phase in Ni-based single crystal superalloy. <i>Journal of Alloys and Compounds</i> , 2017, 724, 287-295.	2.8	52
10	Spinodal-modulated solid solution delivers a strong and ductile refractory high-entropy alloy. <i>Materials Horizons</i> , 2021, 8, 948-955.	6.4	52
11	Selective evolution of secondary γ^2 precipitation in a Ni-based single crystal superalloy both in the γ^3 matrix and at the dislocation nodes. <i>Acta Materialia</i> , 2016, 116, 343-353.	3.8	50
12	Stress-induced martensitic transformation in nanometric NiTi shape memory alloy strips: An in situ TEM study of the thickness/size effect. <i>Journal of Alloys and Compounds</i> , 2013, 579, 100-111.	2.8	37
13	Atomistic Mechanism of Stress-Induced Combined Slip and Diffusion in Sub-5 Nanometer-Sized Ag Nanowires. <i>ACS Nano</i> , 2019, 13, 8708-8716.	7.3	37
14	Structural evolution of topologically closed packed phase in a Ni-based single crystal superalloy. <i>Acta Materialia</i> , 2020, 185, 233-244.	3.8	35
15	Site preference of metallic elements in M ₂₃ C ₆ carbide in a Ni-based single crystal superalloy. <i>Materials and Design</i> , 2017, 129, 9-14.	3.3	32
16	Minimum interface misfit criterion for the precipitation morphologies of TCP phases in a Ni-based single crystal superalloy. <i>Intermetallics</i> , 2018, 94, 55-64.	1.8	31
17	Evolution of microstructure and mechanical properties of a dissimilar aluminium alloy weldment. <i>Materials and Design</i> , 2016, 90, 230-237.	3.3	29
18	High resolution transmission electron microscopy studies of γ' phase in Ni-based single crystal superalloys. <i>Journal of Alloys and Compounds</i> , 2012, 536, 80-84.	2.8	28

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19	Timely and atomic-resolved high-temperature mechanical investigation of ductile fracture and atomistic mechanisms of tungsten. <i>Nature Communications</i> , 2021, 12, 2218.	5.8	27
20	Initial oxidation of Ni-based superalloy and its dynamic microscopic mechanisms: The interface junction initiated outwards oxidation. <i>Acta Materialia</i> , 2021, 215, 116991.	3.8	27
21	Effect of chemical composition on particle morphology of topologically close-packed precipitates in a Ni-based single crystal superalloy. <i>Scripta Materialia</i> , 2018, 157, 100-105.	2.6	25
22	Effect of Cyclic Loading on Apparent Young's Modulus and Critical Stress in Nano-Subgrained Superelastic NiTi Shape Memory Alloys. <i>Materials Transactions</i> , 2006, 47, 735-741.	0.4	24
23	A modification on Brook formula in calculating the misfit of Ni-based superalloys. <i>Materials and Design</i> , 2017, 126, 12-17.	3.3	21
24	Revealing ultralarge and localized elastic lattice strains in Nb nanowires embedded in NiTi matrix. <i>Scientific Reports</i> , 2015, 5, 17530.	1.6	20
25	Size effect on the deformation mechanisms of nanocrystalline platinum thin films. <i>Scientific Reports</i> , 2017, 7, 13264.	1.6	20
26	First-principles investigations on structural stability, elastic and electronic properties of $\text{Co}_{7-x}\text{M}_x$ ($\text{M} = \text{W}, \text{Mo}, \text{Nb}$) Åu phases. <i>Molecular Simulation</i> , 2019, 45, 752-758.	0.9	20
27	Effect of Al content on the thermal oxidation behaviour of AlHfMoNbTi high-entropy alloys analysed by in situ environmental TEM. <i>Corrosion Science</i> , 2021, 191, 109711.	3.0	19
28	Locality and rapidity of the ultra-large elastic deformation of Nb nanowires in a NiTi phase-transforming matrix. <i>Scientific Reports</i> , 2014, 4, 6753.	1.6	18
29	Strongly enhanced ultraviolet emission of an $\text{Au@SiO}_2/\text{ZnO}$ plasmonic hybrid nanostructure. <i>Nanoscale</i> , 2016, 8, 4030-4036.	2.8	18
30	Characterization of topologically close-packed phases and precipitation behavior of P phase in a Ni-based single crystal superalloy. <i>Intermetallics</i> , 2020, 125, 106887.	1.8	18
31	Heterostructure TiO_2 polymorphs design and structure adjustment for photocatalysis. <i>Science Bulletin</i> , 2018, 63, 314-321.	4.3	16
32	Dynamic mechanisms of strengthening and softening of coherent twin boundary via dislocation pile-up and cross-slip. <i>Materials Research Letters</i> , 2022, 10, 539-546.	4.1	15
33	Kink structures induced in nickel-based single crystal superalloys by high-Z element migration. <i>Journal of Alloys and Compounds</i> , 2015, 618, 750-754.	2.8	13
34	Reveal the size effect on the plasticity of ultra-small sized Ag nanowires with in situ atomic-scale microscopy. <i>Journal of Alloys and Compounds</i> , 2016, 676, 377-382.	2.8	13
35	Atomic arrangement and formation of planar defects in the γ' phase of Ni-base single crystal superalloys. <i>Journal of Alloys and Compounds</i> , 2018, 766, 775-783.	2.8	13
36	â€œLattice Strain Matchingâ€œ Enabled Nanocomposite Design to Harness the Exceptional Mechanical Properties of Nanomaterials in Bulk Forms. <i>Advanced Materials</i> , 2020, 32, e1904387.	11.1	13

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37	Effect of pre-straining treatment on high temperature creep behavior of Ni-based single crystal superalloys. <i>Materials and Design</i> , 2019, 167, 107633.	3.3	12
38	Elemental preference and atomic scale site recognition in a Co-Al-W-base superalloy. <i>Scientific Reports</i> , 2017, 7, 17240.	1.6	11
39	Core structure and strengthening mechanism of the misfit dislocation in nickel-based superalloys during high-temperature and low-stress creep. <i>Journal of Alloys and Compounds</i> , 2018, 743, 372-376.	2.8	11
40	First-principles studies of the structural and electronic properties of the C14 Laves phase $XCr_2(X = Ni, Ti)$. <i>Journal of Applied Physics</i> , 2017, 121, 073501.	0.7	10
41	In-situ observation of crack propagation through the nucleation of nanoscale voids in ultra-thin, freestanding Ag films. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2014, 618, 614-620.	2.6	10
42	Effects of the orientation relationships between TCP phases and matrix on the morphologies of TCP phases in Ni-based single crystal superalloys. <i>Materials Characterization</i> , 2022, 183, 111609.	1.9	10
43	In situ atomic scale mechanisms of strain-induced twin boundary shear to high angle grain boundary in nanocrystalline Pt. <i>Ultramicroscopy</i> , 2018, 195, 69-73.	0.8	9
44	A comparative study of rafting mechanisms of Ni-based single crystal superalloys. <i>Materials and Design</i> , 2020, 196, 109097.	3.3	9
45	Structural, electronic and elastic properties of the C14 NbCr ₂ Laves phase under hydrostatic pressure. <i>Solid State Communications</i> , 2013, 174, 46-49.	0.9	8
46	MEMS Device for Quantitative In Situ Mechanical Testing in Electron Microscope. <i>Micromachines</i> , 2017, 8, 31.	1.4	8
47	Single Tungsten Atom-Modified Cotton Fabrics for Visible-Light-Driven Photocatalytic Degradation and Antibacterial Activity. <i>ACS Applied Bio Materials</i> , 2021, 4, 4345-4353.	2.3	8
48	Identification of the partitioning characteristics of refractory elements in γ' and γ_2 phases of Ni-based single crystal superalloys based on first principles. <i>Materials Chemistry and Physics</i> , 2014, 147, 483-487.	2.0	7
49	Direct observation of the grain boundaries acting as dislocation sources in nanocrystalline platinum. <i>Materials Characterization</i> , 2021, 181, 111493.	1.9	7
50	Oxygen changes crack modes of Ni-based single crystal superalloy. <i>Materials Research Letters</i> , 2021, 9, 531-539.	4.1	7
51	Simultaneously enhanced oxidation resistance and mechanical properties in a novel lightweight Ti ₂ VZrNb _{0.5} Al _{0.5} high-entropy alloy. <i>Science China Materials</i> , 2022, 65, 2842-2849.	3.5	5
52	In-situ investigation of dislocation tangle "untangle" processes in small-sized body-centered cubic Nb single crystals. <i>Materials Letters</i> , 2017, 198, 16-18.	1.3	4
53	Tailoring perpendicular magnetic anisotropy with graphene oxide membranes. <i>RSC Advances</i> , 2017, 7, 52938-52944.	1.7	3
54	Characterization and formation of γ/γ_2 interface in Ni-based single crystal superalloys. <i>Materials Research Express</i> , 2017, 4, 116512.	0.8	3

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55	EFFECT OF TEMPERATURE ON MICROSTRUCTURE AND NANOINDENTATION MECHANICAL PROPERTIES OF ELECTRODEPOSITED NANO-TWINNED Ni. Jinshu Xuebao/Acta Metallurgica Sinica, 2012, 48, 1342.	0.3	3
56	Liquid-phase scanning electron microscopy for single membrane protein imaging. Biochemical and Biophysical Research Communications, 2022, 590, 163-168.	1.0	3
57	Response to "Comments on "Selective evolution of secondary γ' precipitation in a Ni-based single crystal superalloy both in the γ matrix and at the dislocation nodes". Scripta Materialia, 2017, 129, 104-106.	2.6	2
58	Investigations of EGFR configurations on tumor cell surface by high-resolution electron microscopy. Biochemical and Biophysical Research Communications, 2020, 532, 179-184.	1.0	2
59	Crystallographic Study of Superelastic Deformation of Nitinol. Journal of ASTM International, 2009, 6, 1-9.	0.2	2
60	Nb/NiTi laminate composite with high pseudoelastic energy dissipation capacity. Materials Today Nano, 2022, 19, 100238.	2.3	2
61	In-Situ TEM Study of the Thickness Impact on the Crystallization Features of a Near Equal-Atomic TiNi Thin Film Prepared by Planar Magnetron Sputtering. Materials Transactions, 2006, 47, 536-539.	0.4	1
62	Intergrowth of P phase with Laves phase C36 in the high Mo-containing nickel-base single crystal superalloy. Materials Research Express, 2019, 6, 046528.	0.8	1
63	Multidimensional microscopic investigation of oxidation-induced hollow cavities in a Co-Al-W-Ti-Ta alloy nanotip by electron tomography. Journal of Alloys and Compounds, 2020, 848, 156243.	2.8	1
64	Defects and Their Elemental Distributions in a Crept Co-Al-W-Ti-Ta Single Crystal Superalloy. Crystals, 2020, 10, 908.	1.0	1
65	In situ observation of the effect of the twin boundary orientation on the mechanical properties of single crystalline Ni. Materials and Design, 2022, 219, 110816.	3.3	1
66	Selective Phase and Elemental Oxidation on γ/γ' Structure Co-Al-W-Ti-Ta Alloy Nano Lamella by In-Situ Environmental TEM. SSRN Electronic Journal, 0, , .	0.4	0
67	Growth twins of R phase in the high Mo-containing nickel-base single crystal superalloy. Materials Research Express, 2018, 5, 126517.	0.8	0
68	Luminescence Properties of GaAs Quantum Dot-in-Nanowire Structure for Quantum Photonics. , 2015, , .		0