

Xiaodong Han

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/2487263/publications.pdf>

Version: 2024-02-01

97
papers

6,240
citations

87888

38
h-index

66911

78
g-index

97
all docs

97
docs citations

97
times ranked

7207
citing authors

#	ARTICLE	IF	CITATIONS
1	In situ atomistic mechanisms of detwinning in nanocrystalline AuAg alloy. <i>Science China Materials</i> , 2022, 65, 820-826.	6.3	4
2	Ultra-high strength yet superplasticity in a hetero-grain-sized nanocrystalline Au nanowire. <i>Journal of Materials Science and Technology</i> , 2022, 101, 95-106.	10.7	12
3	Twin thickness and dislocation interactions affect the incoherent-twin boundary phase in face-centered cubic metals. <i>Cell Reports Physical Science</i> , 2022, 3, 100736.	5.6	6
4	Deformation-Induced Phase Transformations in Gold Nanoribbons with the 4H Phase. <i>ACS Nano</i> , 2022, 16, 3272-3279.	14.6	5
5	Direct Atomic-Scale Observation of Ultrasmall Ag Nanowires that Exhibit fcc, bcc, and hcp Structures under Bending. <i>Physical Review Letters</i> , 2022, 128, 015701.	7.8	47
6	Liquid-phase scanning electron microscopy for single membrane protein imaging. <i>Biochemical and Biophysical Research Communications</i> , 2022, 590, 163-168.	2.1	3
7	Tracking the sliding of grain boundaries at the atomic scale. <i>Science</i> , 2022, 375, 1261-1265.	12.6	115
8	Ultrahigh Photocatalytic CO ₂ Reduction Efficiency and Selectivity Manipulation by Single Tungsten Atom Oxide at the Atomic Step of TiO ₂ . <i>Advanced Materials</i> , 2022, 34, e2109074.	21.0	107
9	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.	8.7	15
10	Nb/NiTi laminate composite with high pseudoelastic energy dissipation capacity. <i>Materials Today Nano</i> , 2022, 19, 100238.	4.6	2
11	Temperature-Dependent Luminescence and Anisotropic Optical Properties of Centimeter-Sized One-Dimensional Perovskite Trimethylammonium Lead Iodide Single Crystals. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 5451-5460.	4.6	10
12	Highly efficient blue emissive copper halide Cs ₅ Cu ₃ Cl ₆ I ₂ scintillators for X-ray detection and imaging. <i>Ceramics International</i> , 2022, 48, 30788-30796.	4.8	16
13	In situ atomic-scale observation of dislocation behaviors in twin-structured Pt nanocrystals. <i>Science China Technological Sciences</i> , 2021, 64, 599-604.	4.0	6
14	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.	10.7	83
15	Co and Pt Dual Single Atoms with Oxygen-Coordinated Co-O-Pt Dimer Sites for Ultrahigh Photocatalytic Hydrogen Evolution Efficiency. <i>Advanced Materials</i> , 2021, 33, e2003327.	21.0	123
16	Timely and atomic-resolved high-temperature mechanical investigation of ductile fracture and atomistic mechanisms of tungsten. <i>Nature Communications</i> , 2021, 12, 2218.	12.8	27
17	Atomically Dispersed Ni _{1±} -MoC Catalyst for Hydrogen Production from Methanol/Water. <i>Journal of the American Chemical Society</i> , 2021, 143, 309-317.	13.7	168
18	Thermal Atomization of Platinum Nanoparticles into Single Atoms: An Effective Strategy for Engineering High-Performance Nanozymes. <i>Journal of the American Chemical Society</i> , 2021, 143, 18643-18651.	13.7	174

#	ARTICLE	IF	CITATIONS
19	Engineering the Atomic Interface with Single Platinum Atoms for Enhanced Photocatalytic Hydrogen Production. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 1295-1301.	13.8	344
20	Observation of Quantum Anomalous Hall Effect and Exchange Interaction in Topological Insulator/Antiferromagnet Heterostructure. <i>Advanced Materials</i> , 2020, 32, e2001460.	21.0	27
21	Investigations of EGFR configurations on tumor cell surface by high-resolution electron microscopy. <i>Biochemical and Biophysical Research Communications</i> , 2020, 532, 179-184.	2.1	2
22	Giant Topological Hall Effect and Superstable Spontaneous Skyrmions below 330 K in a Centrosymmetric Complex Noncollinear Ferromagnet NdMn ₂ Ge ₂ . <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 24125-24132.	8.0	17
23	Dynamic Epitaxial Crystallization of SnSe ₂ on the Oxidized SnSe Surface and Its Atomistic Mechanisms. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, .	8.0	9
24	Atomistic mechanism of nucleation and growth of a face-centered orthogonal phase in small-sized single-crystalline Mo. <i>Materials Research Letters</i> , 2020, 8, 348-355.	8.7	14
25	In situ TEM revealing pretreatment and interface effects in Ge ₂ Sb ₂ Te ₅ . <i>Applied Physics Letters</i> , 2020, 116, 222105.	3.3	6
26	In situ atomic-scale observation of grain size and twin thickness effect limit in twin-structural nanocrystalline platinum. <i>Nature Communications</i> , 2020, 11, 1167.	12.8	48
27	Tunable Mechanical Property and Structural Transition of Silicon Nitride Nanowires Induced by Focused Ion Beam Irradiation. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 32175-32181.	8.0	1
28	In-situ observation of cooperative grain boundary sliding and migration in the nano-twinned nanocrystalline-Au thin-films. <i>Scripta Materialia</i> , 2020, 180, 97-102.	5.2	14
29	Atomistic Mechanism of Stress-Induced Combined Slip and Diffusion in Sub-5 Nanometer-Sized Ag Nanowires. <i>ACS Nano</i> , 2019, 13, 8708-8716.	14.6	37
30	In situ investigation of synchronized dislocation array nucleation and phase transformation at mode I-II cracks of single-crystalline Mo. <i>Journal of Alloys and Compounds</i> , 2019, 806, 283-291.	5.5	3
31	Mechanical behavior of metallic nanowires with twin boundaries parallel to loading axis. <i>Computational Materials Science</i> , 2019, 169, 109087.	3.0	6
32	Low Temperature Oxidation of Ethane to Oxygenates by Oxygen over Iridium-Cluster Catalysts. <i>Journal of the American Chemical Society</i> , 2019, 141, 18921-18925.	13.7	72
33	Ultrahigh Photocatalytic Rate at a Single Metal-Atom Oxide. <i>Advanced Materials</i> , 2019, 31, e1903491.	21.0	53
34	<i>In-situ</i> observation of dislocation dynamics near heterostructured interfaces. <i>Materials Research Letters</i> , 2019, 7, 376-382.	8.7	100
35	Room-temperature superplasticity in Au nanowires and their atomistic mechanisms. <i>Nanoscale</i> , 2019, 11, 8727-8735.	5.6	9
36	Bent strain values affect the plastic deformation behaviours of twinned Ni NWs. <i>Scripta Materialia</i> , 2019, 167, 1-5.	5.2	6

#	ARTICLE	IF	CITATIONS
37	Surface Energy Driven Liquid-Drop-Like Pseudoelastic Behaviors and In Situ Atomistic Mechanisms of Small-Sized Face-Centered-Cubic Metals. <i>Nano Letters</i> , 2019, 19, 292-298.	9.1	20
38	Sodium-doped Tin Sulfide Single Crystal: A Nontoxic Earth-abundant Material with High Thermoelectric Performance. <i>Advanced Energy Materials</i> , 2018, 8, 1800087.	19.5	80
39	In situ atomistic deformation mechanisms of twin-structured nanocrystal Pt. <i>Scripta Materialia</i> , 2018, 147, 103-107.	5.2	24
40	Hygroscopic analysis of individual Beijing haze aerosol particles by environmental scanning electron microscopy. <i>Atmospheric Environment</i> , 2018, 172, 149-156.	4.1	18
41	Ultra-high average figure of merit in synergistic band engineered Sn _{1-x} Na _x Se _{0.9} S _{0.1} single crystals. <i>Materials Today</i> , 2018, 21, 501-507.	14.2	71
42	Constructing NiCo/Fe ₃ O ₄ Heteroparticles within MOF-74 for Efficient Oxygen Evolution Reactions. <i>Journal of the American Chemical Society</i> , 2018, 140, 15336-15341.	13.7	310
43	In Situ TEM: Theory and Applications. <i>Springer Tracts in Modern Physics</i> , 2018, , 381-477.	0.1	1
44	Direct observation of noble metal nanoparticles transforming to thermally stable single atoms. <i>Nature Nanotechnology</i> , 2018, 13, 856-861.	31.5	741
45	Proximity-Induced Magnetic Order in a Transferred Topological Insulator Thin Film on a Magnetic Insulator. <i>ACS Nano</i> , 2018, 12, 5042-5050.	14.6	41
46	Luminescence characteristics of individual Beijing haze aerosol particles. <i>Atmospheric Environment</i> , 2018, 190, 249-255.	4.1	2
47	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.	1.9	9
48	In Situ TEM Investigation of Electron Irradiation Induced Metastable States in Lithium-Ion Battery Cathodes: Li ₂ FeSiO ₄ versus LiFePO ₄ . <i>ACS Applied Energy Materials</i> , 2018, 1, 3180-3189.	5.1	20
49	Strain Gradient Modulated Exciton Evolution and Emission in ZnO Fibers. <i>Scientific Reports</i> , 2017, 7, 40658.	3.3	6
50	A Second Amorphous Layer Underneath Surface Oxide. <i>Microscopy and Microanalysis</i> , 2017, 23, 173-178.	0.4	16
51	In situ observation of stress induced grain boundary migration in nanocrystalline gold. <i>Scripta Materialia</i> , 2017, 134, 95-99.	5.2	58
52	Plastic Deformation through Dislocation Saturation in Ultrasmall Pt Nanocrystals and Its in Situ Atomistic Mechanisms. <i>Nano Letters</i> , 2017, 17, 4733-4739.	9.1	60
53	Mechanically Driven Grain Boundary Formation in Nickel Nanowires. <i>ACS Nano</i> , 2017, 11, 12500-12508.	14.6	28
54	New twinning route in face-centered cubic nanocrystalline metals. <i>Nature Communications</i> , 2017, 8, 2142.	12.8	110

#	ARTICLE	IF	CITATIONS
55	MEMS Device for Quantitative In Situ Mechanical Testing in Electron Microscope. <i>Micromachines</i> , 2017, 8, 31.	2.9	8
56	Deformation mechanisms of bent Si nanowires governed by the sign and magnitude of strain. <i>Applied Physics Letters</i> , 2016, 108, 151903.	3.3	18
57	Element-resolved atomic structure imaging of rocksalt Ge ₂ Sb ₂ Te ₅ phase-change material. <i>Applied Physics Letters</i> , 2016, 108, .	3.3	89
58	Dislocation "Bubble-Like-Effect" and the Ambient Temperature Super-plastic Elongation of Body-centred Cubic Single Crystalline Molybdenum. <i>Scientific Reports</i> , 2016, 6, 22937.	3.3	21
59	The chemistry and structural thermal stability of hole-doped single crystalline SnSe. <i>Journal of Alloys and Compounds</i> , 2016, 688, 1088-1094.	5.5	12
60	Direct observation of structural transitions in the phase change material Ge ₂ Sb ₂ Te ₅ . <i>Journal of Materials Chemistry C</i> , 2016, 4, 9303-9309.	5.5	18
61	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.	5.5	13
62	Understanding the Stability for Li-Rich Layered Oxide Li ₂ RuO ₃ Cathode. <i>Advanced Functional Materials</i> , 2016, 26, 1330-1337.	14.9	118
63	Strongly enhanced ultraviolet emission of an Au@SiO ₂ /ZnO plasmonic hybrid nanostructure. <i>Nanoscale</i> , 2016, 8, 4030-4036.	5.6	18
64	Growth of III-V semiconductor nanowires and their heterostructures. <i>Science China Materials</i> , 2016, 59, 51-91.	6.3	20
65	Orientation Dependence of Electromechanical Characteristics of Defect-free InAs Nanowires. <i>Nano Letters</i> , 2016, 16, 1787-1793.	9.1	30
66	Retaining Large and Adjustable Elastic Strains of Kilogram-Scale Nb Nanowires. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 2917-2922.	8.0	21
67	Superelasticity and the Shape Memory Effect. , 2016, , 3874-3880.		0
68	B12-P-08 In situ observation of dislocation accumulation and small angle grain boundary formation. <i>Microscopy (Oxford, England)</i> , 2015, 64, i89.1-i89.	1.5	0
69	B21-O-14 Ultra-large elasticity and Liquid-like behavior of Nano-materials. <i>Microscopy (Oxford, England)</i> , 2015, 64, i15.1-i15.	1.5	0
70	B11-O-10 In situ Atomic Scale Mechanical Microscopy. <i>Microscopy (Oxford, England)</i> , 2015, 64, i15.1-i15.	1.5	0
71	Direct realizing the growth direction of epitaxial nanowires by electron microscopy. <i>Science China Materials</i> , 2015, 58, 433-440.	6.3	7
72	B22-O-12 In Situ Atomic Scale Observation of Grain Rotation Mediated by Grain Boundary Dislocations. <i>Microscopy (Oxford, England)</i> , 2015, 64, i52.2-i52.	1.5	0

#	ARTICLE	IF	CITATIONS
73	B12-P-06The study of liquid like behaviors in silver nanocrystal. <i>Microscopy</i> (Oxford, England), 2015, 64, i88.1-i88.	1.5	0
74	Dynamic and atomic-scale understanding of the twin thickness effect on dislocation nucleation and propagation activities by in situ bending of Ni nanowires. <i>Acta Materialia</i> , 2015, 90, 194-203.	7.9	34
75	In situ atomic scale mechanical microscopy discovering the atomistic mechanisms of plasticity in nano-single crystals and grain rotation in polycrystalline metals. <i>Ultramicroscopy</i> , 2015, 151, 94-100.	1.9	28
76	Enhanced contrast separation in scanning electron microscopes via a suspended-thin sample approach. <i>Ultramicroscopy</i> , 2014, 146, 83-90.	1.9	1
77	Observation of enhanced carrier transport properties of Si $\sim 100^\circ$ -oriented whiskers under uniaxial strains. <i>Applied Physics Letters</i> , 2014, 104, .	3.3	17
78	Bandgap engineering and manipulating electronic and optical properties of ZnO nanowires by uniaxial strain. <i>Nanoscale</i> , 2014, 6, 4936-4941.	5.6	55
79	Grain rotation mediated by grain boundary dislocations in nanocrystalline platinum. <i>Nature Communications</i> , 2014, 5, 4402.	12.8	286
80	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.	3.3	18
81	Crystalline Liquid and Rubber-Like Behavior in Cu Nanowires. <i>Nano Letters</i> , 2013, 13, 3812-3816.	9.1	45
82	A Transforming Metal Nanocomposite with Large Elastic Strain, Low Modulus, and High Strength. <i>Science</i> , 2013, 339, 1191-1194.	12.6	241
83	In situ atomic-scale observation of continuous and reversible lattice deformation beyond the elastic limit. <i>Nature Communications</i> , 2013, 4, 2413.	12.8	147
84	In situ experimental mechanics of nanomaterials at the atomic scale. <i>NPG Asia Materials</i> , 2013, 5, e40-e40.	7.9	110
85	Piezoresistance behaviors of ultra-strained SiC nanowires. <i>Applied Physics Letters</i> , 2012, 101, .	3.3	79
86	Screw-rotation twinning through helical movement of triple-partials. <i>Applied Physics Letters</i> , 2012, 101, 121901.	3.3	14
87	Quantitative Evidence of Crossover toward Partial Dislocation Mediated Plasticity in Copper Single Crystalline Nanowires. <i>Nano Letters</i> , 2012, 12, 4045-4049.	9.1	108
88	Size-Dependent Bandgap Modulation of ZnO Nanowires by Tensile Strain. <i>Nano Letters</i> , 2012, 12, 4595-4599.	9.1	173
89	Approaching the Theoretical Elastic Strain Limit in Copper Nanowires. <i>Nano Letters</i> , 2011, 11, 3151-3155.	9.1	202
90	Direct Atomic-Scale Imaging about the Mechanisms of Ultralarge Bent Straining in Si Nanowires. <i>Nano Letters</i> , 2011, 11, 2382-2385.	9.1	100

#	ARTICLE	IF	CITATIONS
91	Uniform tensile elongation in framed submicron metallic glass specimen in the limit of suppressed shear banding. <i>Acta Materialia</i> , 2011, 59, 6511-6518.	7.9	74
92	<i>In Situ</i> Observation of Dislocation Behavior in Nanometer Grains. <i>Physical Review Letters</i> , 2010, 105, 135501.	7.8	135
93	Electron-beam-assisted superplastic shaping of nanoscale amorphous silica. <i>Nature Communications</i> , 2010, 1, 24.	12.8	280
94	Charge compensation by in-situ heating for insulating ceramics in scanning electron microscope. <i>Ultramicroscopy</i> , 2009, 109, 1326-1332.	1.9	6
95	Atomic Mechanisms Governing the Elastic Limit and the Incipient Plasticity of Bending Si Nanowires. <i>Nano Letters</i> , 2009, 9, 2471-2476.	9.1	127
96	Polarization Driven Covalently-Bonded Octahedral-Twinning and Backbone-Peripheral-Helical Nanoarchitectures. <i>Nano Letters</i> , 2008, 8, 2258-2264.	9.1	14
97	Low-Temperature in Situ Large Strain Plasticity of Ceramic SiC Nanowires and Its Atomic-Scale Mechanism. <i>Nano Letters</i> , 2007, 7, 452-457.	9.1	247