

Haihui Ruan

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

81
papers

2,527
citations

20
h-index

49
g-index

89
ext. papers

3,084
ext. citations

4.3
avg, IF

5.15
L-index

#	Paper	IF	Citations
81	Mechano-electrochemical phase field modeling for formation and modulation of dendritic Pattern: Application to uranium recovery from spent nuclear fuel. <i>Materials and Design</i> , 2022 , 213, 110322	8.1	0
80	Review on thin film coatings for precision glass molding. <i>Surfaces and Interfaces</i> , 2022 , 30, 101903	4.1	0
79	Microstructure Evolution and Mechanical Properties of Austenite Stainless Steel with Gradient Twinned Structure by Surface Mechanical Attrition Treatment. <i>Nanomaterials</i> , 2021 , 11,	5.4	2
78	Effect of Stress-Dependent Thermal Conductivity on Thermo-Mechanical Coupling Behavior in GaN-Based Nanofilm Under Pulse Heat Source. <i>Acta Mechanica Solida Sinica</i> , 2021 , 34, 27-39	2	0
77	Constitutive modeling of size-dependent deformation behavior in nano-dual-phase glass-crystal alloys. <i>International Journal of Plasticity</i> , 2021 , 137, 102918	7.6	3
76	Phase-field modeling of mechanochemical-coupled stress-corrosion cracking. <i>Electrochimica Acta</i> , 2021 , 395, 139196	6.7	2
75	Modeling of an acoustically actuated artificial micro-swimmer. <i>Bioinspiration and Biomimetics</i> , 2020 , 15, 036002	2.6	8
74	On the mechanical relaxation in glass and its relation to the double-peak phenomenon in impulse excited vibration at high temperatures. <i>Journal of Non-Crystalline Solids</i> , 2020 , 533, 119939	3.9	0
73	Modeling the strain rate-dependent constitutive behavior in nanotwinned polycrystalline metals. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2020 , 384, 126206	2.3	
72	Micro-mechanical model for the effective thermal conductivity of the multi-oriented inclusions reinforced composites with imperfect interfaces. <i>International Journal of Heat and Mass Transfer</i> , 2020 , 148, 119167	4.9	8
71	Multi-phase-field modeling of localized corrosion involving galvanic pitting and mechano-electrochemical coupling. <i>Corrosion Science</i> , 2020 , 177, 108900	6.8	11
70	Size-dependent formation and thermal stability of high-order twins in hierarchical nanotwinned metals. <i>International Journal of Plasticity</i> , 2020 , 128, 102685	7.6	12
69	Mechanochemical coupling phase-field modeling for inhomogeneous oxidation of zirconium induced by stress-oxidation interaction. <i>Npj Materials Degradation</i> , 2020 , 4,	5.7	3
68	Effects of surface/interface stress on phonon properties and thermal conductivity in AlN/GaN/AlN heterostructural nanofilms. <i>Applied Physics A: Materials Science and Processing</i> , 2019 , 125, 1	2.6	6
67	Phase field study of mechanico-electrochemical corrosion. <i>Electrochimica Acta</i> , 2019 , 310, 240-255	6.7	17
66	Anomalous sudden drop of temperature-dependent Young's modulus of a plastically deformed duplex stainless steel. <i>Materials and Design</i> , 2019 , 181, 108071	8.1	3
65	Phase-field modeling of scale roughening induced by outward growing oxide. <i>Materialia</i> , 2019 , 5, 100255.2	5.2	4

64	Elastic modulus change and its relation with glass-forming ability and plasticity in bulk metallic glasses. <i>Scripta Materialia</i> , 2019 , 161, 62-65	5.6	2
63	Multi-temperature indentation creep tests on nanotwinned copper. <i>International Journal of Plasticity</i> , 2018 , 104, 68-79	7.6	17
62	The partition coefficient of alloying elements and its influence on the pitting corrosion resistance of 15Cr-2Ni duplex stainless steel. <i>Corrosion Science</i> , 2018 , 139, 13-20	6.8	11
61	Phase field modeling of Widmanstätten ferrite formation in steel. <i>Journal of Alloys and Compounds</i> , 2018 , 769, 620-630	5.7	7
60	Non-Contact and Real-Time Measurement of Kolsky Bar with Temporal Speckle Interferometry. <i>Applied Sciences (Switzerland)</i> , 2018 , 8, 808	2.6	3
59	Investigating relaxation of glassy materials based on natural vibration of beam: A comparative study of borosilicate and chalcogenide glasses. <i>Journal of Non-Crystalline Solids</i> , 2018 , 500, 181-190	3.9	8
58	The Kinetic diagram of sigma phase and its precipitation hardening effect on 15Cr-2Ni duplex stainless steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018 , 711, 571-578	5.3	20
57	Elastic-viscoplasticity modeling of the thermo-mechanical behavior of chalcogenide glass for aspheric lens molding. <i>International Journal of Applied Glass Science</i> , 2018 , 9, 252-262	1.8	6
56	Micro/Nanoscale Manufacture of Advanced Materials and an Exploration of Their Properties. <i>Journal of Nanomaterials</i> , 2018 , 2018, 1-2	3.2	
55	Excellent combination of strength and ductility in 15Cr-2Ni duplex stainless steel based on ultrafine-grained austenite phase. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017 , 690, 96-103	5.3	10
54	Microstructures-based constitutive analysis for mechanical properties of gradient-nanostructured 304 stainless steels. <i>Acta Materialia</i> , 2017 , 128, 375-390	8.4	60
53	Micromechanical modeling for mechanical properties of gradient-nanotwinned metals with a composite microstructure. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017 , 703, 180-186	5.3	9
52	Shear and shuffling accomplishing polymorphic fcc to bcc to martensitic phase transformation. <i>Acta Materialia</i> , 2017 , 136, 347-354	8.4	50
51	Exploiting the non-equilibrium phase transformation in a 15Cr-2Ni-2Al-11Mn resource-saving duplex stainless steel. <i>Materials and Design</i> , 2017 , 114, 433-440	8.1	2
50	Directly cast bulk eutectic and near-eutectic high entropy alloys with balanced strength and ductility in a wide temperature range. <i>Acta Materialia</i> , 2017 , 124, 143-150	8.4	483
49	Surface defect analysis on formed chalcogenide glass GeSeAs lenses after the molding process. <i>Applied Optics</i> , 2017 , 56, 8394-8402	1.7	8
48	The unexpectedly small coefficient of restitution of a two-degree-of-freedom mass-spring system and its implications. <i>International Journal of Impact Engineering</i> , 2016 , 88, 1-11	4	9
47	Microstructure and electrocatalytic performance of nanoporous gold foils decorated by TiO ₂ coatings. <i>Surface and Coatings Technology</i> , 2016 , 286, 113-118	4.4	8

46	High thermal stability and sluggish crystallization kinetics of high-entropy bulk metallic glasses. <i>Journal of Applied Physics</i> , 2016 , 119, 245112	2.5	53
45	Simulating Size and Volume Fraction-Dependent Strength and Ductility of Nanotwinned Composite Copper. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2016 , 83,	2.7	9
44	Prediction of mechanical properties in bimodal nanotwinned metals with a composite structure. <i>Composites Science and Technology</i> , 2016 , 123, 222-231	8.6	15
43	Temperature-dependent residual stresses in a hetero-epitaxial thin film system. <i>Thin Solid Films</i> , 2015 , 584, 186-191	2.2	3
42	Pore-size tuning and optical performances of nanoporous gold films. <i>Microporous and Mesoporous Materials</i> , 2015 , 202, 50-56	5.3	24
41	Effects of pre-stress and surface stress on phonon thermal conductivity of rectangular Si nanowires. <i>Applied Physics A: Materials Science and Processing</i> , 2015 , 119, 253-263	2.6	6
40	Superior tensile ductility in bulk metallic glass with gradient amorphous structure. <i>Scientific Reports</i> , 2014 , 4, 4757	4.9	59
39	A promising new class of high-temperature alloys: eutectic high-entropy alloys. <i>Scientific Reports</i> , 2014 , 4, 6200	4.9	604
38	A new method for characterizing the interphase regions of carbon nanotube composites. <i>International Journal of Solids and Structures</i> , 2014 , 51, 1781-1791	3.1	57
37	Effects of environmental temperature and sliding speed on the tribological behaviour of a Ti-based metallic glass. <i>Intermetallics</i> , 2014 , 52, 36-48	3.5	24
36	Effect of warm deformation on microstructure and mechanical properties of a layered and nanostructured 304 stainless steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2014 , 595, 34-42	5.3	13
35	Influence of Prestress Fields on the Phonon Thermal Conductivity of GaN Nanostructures. <i>Journal of Heat Transfer</i> , 2014 , 136,	1.8	12
34	Revealing Structural Relaxation of Optical Glass Through the Temperature Dependence of Young's Modulus. <i>Journal of the American Ceramic Society</i> , 2014 , 97, 3475-3482	3.8	15
33	Understanding the brittleness of metallic glasses through dynamic clusters. <i>Journal of Materials Research</i> , 2014 , 29, 561-568	2.5	2
32	On the dependence of surface undulation on film thickness. <i>Journal of Physics and Chemistry of Solids</i> , 2014 , 75, 500-504	3.9	2
31	Residual stresses in thin film systems: Effects of lattice mismatch, thermal mismatch and interface dislocations. <i>International Journal of Solids and Structures</i> , 2013 , 50, 3562-3569	3.1	65
30	Atomic rearrangements in metallic glass: Their nucleation and self-organization. <i>Acta Materialia</i> , 2013 , 61, 6050-6060	8.4	8
29	Understanding the friction and wear mechanisms of bulk metallic glass under contact sliding. <i>Wear</i> , 2013 , 304, 43-48	3.5	39

28	On the plasticity event in metallic glass. <i>Philosophical Magazine Letters</i> , 2013 , 93, 158-165	1	9
27	Variation of crystal quality and residual stresses in epitaxially grown thin film systems induced by ion implantation and annealing. <i>Journal of Materials Research</i> , 2013 , 28, 1413-1419	2.5	5
26	Effect of Chain Morphology and Carbon-Nanotube Additives on the Glass Transition Temperature of Polyethylene. <i>Journal of Nano Research</i> , 2013 , 23, 16-23	1	4
25	Plastic Deformation Clusters with High Kinetic Energy in Metallic Glass. <i>Key Engineering Materials</i> , 2013 , 535-536, 152-155	0.4	1
24	Viscosity of Amorphous Materials during Glass-Forming: More from the Adam-Gibbs Law. <i>Key Engineering Materials</i> , 2013 , 535-536, 223-226	0.4	1
23	Modeling of Random Relaxation Paths of Amorphous Material. <i>Journal of the American Ceramic Society</i> , 2013 , 96, 1772-1778	3.8	3
22	A New Method for Measuring the Residual Stresses in Multi-Layered Thin Film Systems. <i>Advanced Materials Research</i> , 2012 , 591-593, 884-890	0.5	
21	Effects of misfit dislocation and film-thickness on the residual stresses in epitaxial thin film systems: Experimental analysis and modeling. <i>Journal of Materials Research</i> , 2012 , 27, 2737-2745	2.5	13
20	A Monte-Carlo Approach for Modeling Glass Transition. <i>Journal of the American Ceramic Society</i> , 2011 , 94, 3350-3358	3.8	7
19	Introducing a hierarchical structure for fabrication of a high performance steel. <i>Materials Chemistry and Physics</i> , 2011 , 129, 1096-1103	4.4	21
18	A new constitutive model for shear banding instability in metallic glass. <i>International Journal of Solids and Structures</i> , 2011 , 48, 3112-3127	3.1	32
17	Modeling grain size dependent optimal twin spacing for achieving ultimate high strength and related high ductility in nanotwinned metals. <i>Acta Materialia</i> , 2011 , 59, 5544-5557	8.4	159
16	The influence of strain rate on the microstructure transition of 304 stainless steel. <i>Acta Materialia</i> , 2011 , 59, 3697-3709	8.4	197
15	Implementation of Glass Transition Physics in Glass Molding Simulation. <i>Advanced Materials Research</i> , 2011 , 325, 707-712	0.5	1
14	Characterization of plastically graded nanostructured material: Part I. The theories and the inverse algorithm of nanoindentation. <i>Mechanics of Materials</i> , 2010 , 42, 559-569	3.3	20
13	Investigation of non-local cracking in layered stainless steel with nanostructured interface. <i>Scripta Materialia</i> , 2010 , 63, 403-406	5.6	27
12	Characterization of plastically graded nanostructured material: Part II. The experimental validation in surface nanostructured material. <i>Mechanics of Materials</i> , 2010 , 42, 698-708	3.3	14
11	Optimization of the strain rate to achieve exceptional mechanical properties of 304 stainless steel using high speed ultrasonic surface mechanical attrition treatment. <i>Acta Materialia</i> , 2010 , 58, 5086-5096	8.4	117

10	Development of a Micro-beam Method to Investigate the Fatigue Crack Growth Mechanisms of Submicron-scale Cracks. <i>Experimental Mechanics</i> , 2009 , 49, 731-742	2.6	5
9	Crushing of thin-walled spheres and sphere arrays. <i>International Journal of Mechanical Sciences</i> , 2006 , 48, 117-133	5.5	45
8	Collision between mass-spring systems. <i>International Journal of Impact Engineering</i> , 2005 , 31, 267-288	4	8
7	Experimental study of collision between a free-free beam and a simply supported beam. <i>International Journal of Impact Engineering</i> , 2005 , 32, 416-443	4	3
6	Collision between a ring and a beam. <i>International Journal of Mechanical Sciences</i> , 2003 , 45, 1751-1780	5.5	7
5	Local deformation models in analyzing beam-on-beam collisions. <i>International Journal of Mechanical Sciences</i> , 2003 , 45, 397-423	5.5	14
4	Plastic modal approximations in analyzing beam-on-beam collisions. <i>International Journal of Solids and Structures</i> , 2003 , 40, 2937-2956	3.1	4
3	Deformation mechanism and defect sensitivity of notched free-free beam and cantilever beam under impact. <i>International Journal of Impact Engineering</i> , 2003 , 28, 33-63	4	7
2	Electromagnetic-Thermo-Mechanical Coupling Behavior of Cu/Si Layered Thin Plate Under Pulsed Magnetic Field. <i>Acta Mechanica Solida Sinica</i> , 1	2	
1	Theoretical Perspectives on Natural and Artificial Micro-swimmers. <i>Acta Mechanica Solida Sinica</i> , 1	2	1