Xue-Bang Wu

List of Publications by Year
in descending order

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Version: 2024-02-01

59 papers	1,329 citations	393982 19 h-index	360668 35 g-index
59 all docs	59 docs citations	59 times ranked	1032 citing authors

#	Article	IF	Citations
1	First-principles determination of grain boundary strengthening in tungsten: Dependence on grain boundary structure and metallic radius of solute. Acta Materialia, 2016, 120, 315-326.	3.8	143
2	First-principles calculations of transition metalâ€“solute interactions with point defects in tungsten. Acta Materialia, 2014, 66, 172-183.	3.8	132
3	First-principles calculations of hydrogen solution and diffusion in tungsten: Temperature and defect-trapping effects. Acta Materialia, 2015, 84, 426-435.	3.8	96
4	Predictive model of hydrogen trapping and bubbling in nanovoids in bcc metals. Nature Materials, 2019, 18, 833-839.	13.3	83
5	Dissolving, trapping and detrapping mechanisms of hydrogen in bcc and fcc transition metals. AIP Advances, 2013, 3, .	0.6	82
6	Clustering of H and He, and their effects on vacancy evolution in tungsten in a fusion environment. Nuclear Fusion, 2014, 54, 103007.	1.6	69
7	Hierarchical microstructures enabled excellent low-temperature strength-ductility synergy in bulk pure tungsten. Acta Materialia, 2022, 228, 117765.	3.8	51
8	Nature of the Sub-Rouse Modes in the Glassâ^'Rubber Transition Zone of Amorphous Polymers. Macromolecules, 2011, 44, 3605-3610.	2.2	49
9	Effects of alloying and transmutation impurities on stability and mobility of helium in tungsten under a fusion environment. Nuclear Fusion, 2013, 53, 073049.	1.6	43
10	Longer-scale segmental dynamics of amorphous poly(ethylene oxide)/poly(vinyl acetate) blends in the softening dispersion. Soft Matter, 2011, 7, 579-586.	1.2	35
11	Hydrogen bubble nucleation by self-clustering: density functional theory and statistical model studies using tungsten as a model system. Nuclear Fusion, 2018, 58, 096021.	1.6	34
12	First-principles calculations on interface stability and migration of H and He in W-ZrC interfaces. Applied Surface Science, 2020, 499, 143995.	3.1	34
13	Excellent high-temperature strength and ductility of the ZrC nanoparticles dispersed molybdenum. Acta Materialia, 2022, 227, 117725.	3.8	34
14	Dynamic Crossover of Î±â€² Relaxation in Poly(vinyl acetate) above Glass Transition via Mechanical Spectroscopy. Journal of Physical Chemistry B, 2009, 113, 11147-11152.	1.2	33
15	Slow dynamics of the Î± and Î±â€² relaxation processes in poly(methyl methacrylate) through the glass transition studied by mechanical spectroscopy. Journal of Applied Physics, 2009, 106, 013527.	1.1	27
16	Revisit to phase diagram of poly(N-isopropylacrylamide) microgel suspensions by mechanical spectroscopy. Journal of Chemical Physics, 2014, 140, 024908.	1.2	24
17	Insight into the Near-Conduction Band States at the Crystallized Interface between GaN and SiN_x Grown by Low-Pressure Chemical Vapor Deposition. ACS Applied Materials & Interfaces, 2018, 10, 21721-21729.	4.0	24
18	Interaction of carbon, nitrogen and oxygen with vacancies and solutes in tungsten. RSC Advances, 2015, 5, 23261-23270.	1.7	21

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19	Prediction and Analysis of Tensile Properties of Austenitic Stainless Steel Using Artificial Neural Network. Metals, 2020, 10, 234.	1.0	20
20	Origin of the crossover in dynamics of the sub-Rouse modes at the same temperature as the structural Î±-relaxation in polymers. Soft Matter, 2014, 10, 9324-9333.	1.2	17
21	Interaction of radiation-induced defects with tungsten grain boundaries at across scales: a short review. Tungsten, 2020, 2, 15-33.	2.0	17
22	Phase diagram of the Pluronic L64â€“H<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow /><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math>O micellar system from mechanical spectroscopy. Physical Review E, 2011, 83, 041801.	0.8	16
23	Effects of polyethylene oxide on the dynamics of the Î± and Î±â€² relaxations observed in polystyrene by low-frequency anelastic spectroscopy. Applied Physics Letters, 2007, 90, 251908.	1.5	15
24	Low-frequency mechanical spectroscopy study of conformational transition of polymer chains in concentrated solutions. Review of Scientific Instruments, 2008, 79, 126105.	0.6	14
25	Insight into interface cohesion and impurity-induced embrittlement in carbide dispersion strengthen tungsten from first principles. Journal of Nuclear Materials, 2020, 538, 152223.	1.3	14
26	Interaction of irradiation-induced point defects with transmutants (H, He, Li, Be, B, Mg, Al and P) in 3C-SiC ceramics. Journal of the European Ceramic Society, 2020, 40, 5196-5204.	2.8	12
27	Opposite Effects of SiO2 Nanoparticles on the Local Î± and Larger-Scale Î±â€™ Segmental Relaxation Dynamics of PMMA Nanocomposites. Polymers, 2019, 11, 979.	2.0	11
28	Systematical study on the roles of transition alloying substitutions on anti-disproportionation reaction of ZrCo during charging and releasing hydrogen. International Journal of Hydrogen Energy, 2020, 45, 14028-14037.	3.8	11
29	Application of Machine Learning to Predict Grain Boundary Embrittlement in Metals by Combining Bonding-Breaking and Atomic Size Effects. Materials, 2020, 13, 179.	1.3	11
30	Quantifying Changes in the Low-Frequency Dynamics of Amorphous Polymers by 2D Correlation Mechanical Spectroscopy. Journal of Physical Chemistry B, 2013, 117, 467-472.	1.2	10
31	Modification on theory of sink strength: An Object Kinetic Monte Carlo study. Computational Materials Science, 2016, 123, 148-157.	1.4	10
32	Mechanical properties and microstructures of Wâ€“TiC and Wâ€“Y2O3 alloys fabricated by hot-pressing sintering. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 819, 141496.	2.6	10
33	The effects of interfaces stability on mechanical properties, thermal conductivity and helium irradiation of V/Cu nano-multilayer composite. Materials and Design, 2022, 216, 110535.	3.3	10
34	Fabrication of an ultrafine-grained W-ZrC-Re alloy with high thermal stability. Fusion Engineering and Design, 2021, 164, 112208.	1.0	9
35	Prediction of vacancy formation energies at tungsten grain boundaries from local structure via machine learning method. Journal of Nuclear Materials, 2022, 559, 153412.	1.3	9
36	Towards the dependence of radiation damage on the grain boundary character and grain size in tungsten: A combined study of molecular statics and rate theory. Journal of Nuclear Materials, 2022, 563, 153637.	1.3	9

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37	Interplay of solute-mixed self-interstitial atoms and substitutional solutes with interstitial and substitutional helium atoms in tungsten-transition metal alloys. Nuclear Fusion, 2019, 59, 026002.	1.6	8
38	Mechanical properties and thermal shock resistance of tungsten alloys strengthened by laser fragmentation-processed zirconium carbide nanoparticles. Tungsten, 2020, 2, 381-389.	2.0	8
39	Multiple pathways in pressure-induced phase transition of coesite. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 12894-12899.	3.3	7
40	Effects of self-interstitial atom on behaviors of hydrogen and helium in tungsten. Physica Scripta, 2020, 95, 075708.	1.2	7
41	Investigation of the dissolution and diffusion properties of interstitial oxygen at grain boundaries in body-centered-cubic iron by the first-principles study. RSC Advances, 2021, 11, 8643-8653.	1.7	7
42	Effects of rolling reduction on microstructural evolution and mechanical properties of W-0.5wt%ZrC alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 830, 142310.	2.6	6
43	Investigation of copolymerâ€“micellar system EO37PO56EO37 by low-frequency internal friction. Physica B: Condensed Matter, 2008, 403, 2500-2504.	1.3	5
44	Dynamics of Johari-Goldstein Î² relaxation and its universal relation to Î± relaxation in bulk metallic glasses by mechanical spectroscopy. Journal of Applied Physics, 2014, 115, 223506.	1.1	5
45	A universal scaling law of grain chain elasticity under pressure revealed by a simple force vibration method. Soft Matter, 2014, 10, 6614.	1.2	5
46	Development of Y2O3 Dispersion-Strengthened Copper Alloy by Sol-Gel Method. Materials, 2022, 15, 2416.	1.3	5
47	Abnormal segmental dynamics of poly(methyl methacrylate)/poly(vinylidene fluoride) blends by mechanical spectroscopy. AIP Advances, 2019, 9, 015326.	0.6	4
48	Retention of hydrogen in W-Ti-C, W-Ta-C and W-Zr-C alloys:ab initiostudy. Physica Scripta, 2020, 95, 105707.	1.2	4
49	Investigation on structural instability induced relaxation and crystallization in ZrCuAlNi bulk metallic glass. Journal of Applied Physics, 2012, 112, 083530.	1.1	3
50	Partially Crystallized Ultrathin Interfaces between GaN and SiN_x Grown by Low-Pressure Chemical Vapor Deposition and Interface Editing. ACS Applied Materials & Interfaces, 2021, 13, 7725-7734.	4.0	3
51	Recent Advances on Interface Design and Preparation of Advanced Tungsten Materials for Plasma Facing Materials. Journal of Fusion Energy, 2020, 39, 342-354.	0.5	3
52	First-principles study on stability, adhesion and fracture properties of ZrO2/W interface in composite materials. Journal of Nuclear Materials, 2022, 560, 153510.	1.3	3
53	Strain Profile in the Subsurface of He-Ion-Irradiated Tungsten Accessed by S-GIXRD. Crystals, 2022, 12, 691.	1.0	3
54	Damage behaviors in microstructures and mechanical properties of pure tungsten induced by repetitive thermal loads. Journal of Nuclear Materials, 2022, 559, 153433.	1.3	2

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55	Effect of Nano-Y2O3 Content on Microstructure and Mechanical Properties of Fe18Cr Films Fabricated by RF Magnetron Sputtering. Nanomaterials, 2021, 11, 1754.	1.9	1
56	Influence of Alloy Atoms on Substitution Properties of Hydrogen by Helium in ZrCoH3. Materials, 2021, 14, 6704.	1.3	1
57	Dynamics inN-Isopropylacrylamide-acrylic Acid Copolymer Aqueous Solution from Mechanical Spectroscopy. Journal of Physical Chemistry B, 2012, 116, 13411-13415.	1.2	0
58	Mechanical Spectroscopy: Some Applications On Structural Changes And Relaxation Dynamics In Soft Matter. Archives of Metallurgy and Materials, 2015, 60, 2077-2084.	0.6	0
59	Frozen-to-jamming-to-fluid Transition of Weakly Sheared Granular Systems by Low-frequency Mechanical Spectroscopy. Materials Research, 2018, 21, .	0.6	0