Xue-Bang Wu

List of Publications by Year
in descending order

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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	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
2	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
3	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
4	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
5	Excellent high-temperature strength and ductility of the ZrC nanoparticles dispersed molybdenum. Acta Materialia, 2022, 227, 117725.	3.8	34
6	Development of Y2O3 Dispersion-Strengthened Copper Alloy by Sol-Gel Method. Materials, 2022, 15, 2416.	1.3	5
7	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
8	Hierarchical microstructures enabled excellent low-temperature strength-ductility synergy in bulk pure tungsten. Acta Materialia, 2022, 228, 117765.	3.8	51
9	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
10	Strain Profile in the Subsurface of He-Ion-Irradiated Tungsten Accessed by S-GIXRD. Crystals, 2022, 12, 691.	1.0	3
11	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
12	Fabrication of an ultrafine-grained W-ZrC-Re alloy with high thermal stability. Fusion Engineering and Design, 2021, 164, 112208.	1.0	9
13	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
14	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
15	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
16	Influence of Alloy Atoms on Substitution Properties of Hydrogen by Helium in ZrCoH3. Materials, 2021, 14, 6704.	1.3	1
17	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
18	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

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19	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
20	Effects of self-interstitial atom on behaviors of hydrogen and helium in tungsten. Physica Scripta, 2020, 95, 075708.	1.2	7
21	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
22	Interaction of radiation-induced defects with tungsten grain boundaries at across scales: a short review. Tungsten, 2020, 2, 15-33.	2.0	17
23	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
24	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
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	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
27	Prediction and Analysis of Tensile Properties of Austenitic Stainless Steel Using Artificial Neural Network. Metals, 2020, 10, 234.	1.0	20
28	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
29	Predictive model of hydrogen trapping and bubbling in nanovoids in bcc metals. Nature Materials, 2019, 18, 833-839.	13.3	83
30	Abnormal segmental dynamics of poly(methyl methacrylate)/poly(vinylidene fluoride) blends by mechanical spectroscopy. AIP Advances, 2019, 9, 015326.	0.6	4
31	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
32	Frozen-to-jamming-to-fluid Transition of Weakly Sheared Granular Systems by Low-frequency Mechanical Spectroscopy. Materials Research, 2018, 21, .	0.6	0
33	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
34	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
35	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
36	Modification on theory of sink strength: An Object Kinetic Monte Carlo study. Computational Materials Science, 2016, 123, 148-157.	1.4	10

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37	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
38	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
39	Interaction of carbon, nitrogen and oxygen with vacancies and solutes in tungsten. RSC Advances, 2015, 5, 23261-23270.	1.7	21
40	First-principles calculations of hydrogen solution and diffusion in tungsten: Temperature and defect-trapping effects. Acta Materialia, 2015, 84, 426-435.	3.8	96
41	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
42	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
43	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
44	First-principles calculations of transition metalâ€“solute interactions with point defects in tungsten. Acta Materialia, 2014, 66, 172-183.	3.8	132
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	Revisit to phase diagram of poly(N-isopropylacrylamide) microgel suspensions by mechanical spectroscopy. Journal of Chemical Physics, 2014, 140, 024908.	1.2	24
47	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
48	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
49	Dissolving, trapping and detrapping mechanisms of hydrogen in bcc and fcc transition metals. AIP Advances, 2013, 3, .	0.6	82
50	Investigation on structural instability induced relaxation and crystallization in ZrCuAlNi bulk metallic glass. Journal of Applied Physics, 2012, 112, 083530.	1.1	3
51	Dynamics inN-Isopropylacrylamide-acrylic Acid Copolymer Aqueous Solution from Mechanical Spectroscopy. Journal of Physical Chemistry B, 2012, 116, 13411-13415.	1.2	0
52	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
53	Nature of the Sub-Rouse Modes in the Glassâ^'Rubber Transition Zone of Amorphous Polymers. Macromolecules, 2011, 44, 3605-3610.	2.2	49
54	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

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55	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
56	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
57	Investigation of copolymerâ€“micellar system EO37PO56EO37 by low-frequency internal friction. Physica B: Condensed Matter, 2008, 403, 2500-2504.	1.3	5
58	Low-frequency mechanical spectroscopy study of conformational transition of polymer chains in concentrated solutions. Review of Scientific Instruments, 2008, 79, 126105.	0.6	14
59	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