

Yongqiang Wang

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133
papers

3,510
citations

32
h-index

54
g-index

144
ext. papers

4,167
ext. citations

5.9
avg, IF

5.27
L-index

#	Paper	IF	Citations
133	Design of radiation tolerant materials via interface engineering. <i>Advanced Materials</i> , 2013 , 25, 6975-9	24	248
132	Effect of grain boundary character on sink efficiency. <i>Acta Materialia</i> , 2012 , 60, 6341-6351	8.4	239
131	Enhanced radiation tolerance in nanocrystalline MgGa ₂ O ₄ . <i>Applied Physics Letters</i> , 2007 , 90, 263115	3.4	234
130	Are nanoporous materials radiation resistant?. <i>Nano Letters</i> , 2012 , 12, 3351-5	11.5	185
129	Issues to consider using nano indentation on shallow ion beam irradiated materials. <i>Journal of Nuclear Materials</i> , 2012 , 425, 136-139	3.3	139
128	The effect of excess atomic volume on He bubble formation at fcc/bcc interfaces. <i>Applied Physics Letters</i> , 2010 , 97, 161903	3.4	85
127	How Graphene Islands Are Unidirectionally Aligned on the Ge(110) Surface. <i>Nano Letters</i> , 2016 , 16, 3160-5	11.5	78
126	Heterogeneous to homogeneous melting transition visualized with ultrafast electron diffraction. <i>Science</i> , 2018 , 360, 1451-1455	33.3	75
125	Compressive flow behavior of Cu thin films and Cu/Nb multilayers containing nanometer-scale helium bubbles. <i>Scripta Materialia</i> , 2011 , 64, 974-977	5.6	70
124	Surface effects on the radiation response of nanoporous Au foams. <i>Applied Physics Letters</i> , 2012 , 101, 191607	3.4	64
123	Unusual size-dependent strengthening mechanisms in helium ion-irradiated immiscible coherent Cu/Co nanolayers. <i>Acta Materialia</i> , 2015 , 84, 393-404	8.4	61
122	Application of small-scale testing for investigation of ion-beam-irradiated materials. <i>Journal of Materials Research</i> , 2012 , 27, 2724-2736	2.5	61
121	Comparisons of radiation damage in He ion and proton irradiated immiscible Ag/Ni nanolayers. <i>Journal of Nuclear Materials</i> , 2013 , 440, 310-318	3.3	58
120	In situ study of defect migration kinetics in nanoporous Ag with enhanced radiation tolerance. <i>Scientific Reports</i> , 2014 , 4, 3737	4.9	57
119	Loop and void damage during heavy ion irradiation on nanocrystalline and coarse grained tungsten: Microstructure, effect of dpa rate, temperature, and grain size. <i>Acta Materialia</i> , 2018 , 149, 206-219	8.4	57
118	Radiation tolerance of nanocrystalline ceramics: insights from Yttria Stabilized Zirconia. <i>Scientific Reports</i> , 2015 , 5, 7746	4.9	56
117	Mechanisms of He escape during implantation in Cu/Nb multilayer composites. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2007 , 261, 524-528	1.2	56

116	Incoherent twin boundary migration induced by ion irradiation in Cu. <i>Journal of Applied Physics</i> , 2013 , 113, 023508	2.5	51
115	Tunable helium bubble superlattice ordered by screw dislocation network. <i>Physical Review B</i> , 2011 , 84,	3.3	51
114	Helium implantation effects on the compressive response of Cu nanopillars. <i>Small</i> , 2013 , 9, 691-6	11	50
113	Opposite correlations between cation disordering and amorphization resistance in spinels versus pyrochlores. <i>Nature Communications</i> , 2015 , 6, 8750	17.4	48
112	Seamless lateral graphene p-n junctions formed by selective in situ doping for high-performance photodetectors. <i>Nature Communications</i> , 2018 , 9, 5168	17.4	48
111	Irradiation damage of single crystal, coarse-grained, and nanograined copper under helium bombardment at 450 °C. <i>Journal of Materials Research</i> , 2013 , 28, 2763-2770	2.5	43
110	Grain size effect on radiation tolerance of nanocrystalline Mo. <i>Scripta Materialia</i> , 2016 , 123, 90-94	5.6	41
109	Fluence-dependent radiation damage in helium (He) ion-irradiated Cu/V multilayers. <i>Philosophical Magazine</i> , 2013 , 93, 883-898	1.6	41
108	He implantation of bulk Cu/Nb nanocomposites fabricated by accumulated roll bonding. <i>Journal of Nuclear Materials</i> , 2014 , 452, 57-60	3.3	40
107	Synthesis of Layer-Tunable Graphene: A Combined Kinetic Implantation and Thermal Ejection Approach. <i>Advanced Functional Materials</i> , 2015 , 25, 3666-3675	15.6	38
106	Adhesion of voids to bimetal interfaces with non-uniform energies. <i>Scientific Reports</i> , 2015 , 5, 15428	4.9	37
105	Radiation induced effects on mechanical properties of nanoporous gold foams. <i>Applied Physics Letters</i> , 2014 , 104, 233109	3.4	36
104	Chemical manipulation of hydrogen induced high p-type and n-type conductivity in GaO. <i>Scientific Reports</i> , 2020 , 10, 6134	4.9	35
103	Nanochannel structures in W enhance radiation tolerance. <i>Acta Materialia</i> , 2018 , 153, 147-155	8.4	34
102	A new precursor for the chemical vapor deposition of tantalum nitride films. <i>Journal of Materials Chemistry</i> , 2004 , 14, 3239		34
101	Microstructure and mechanical properties of FeCrAl alloys under heavy ion irradiations. <i>Journal of Nuclear Materials</i> , 2018 , 503, 250-262	3.3	31
100	Enhanced radiation tolerance in nitride multilayered nanofilms with small period-thicknesses. <i>Applied Physics Letters</i> , 2012 , 101, 153117	3.4	30
99	Helium irradiated cavity formation and defect energetics in Ni-based binary single-phase concentrated solid solution alloys. <i>Acta Materialia</i> , 2019 , 164, 283-292	8.4	30

98	Self-organization of helium precipitates into elongated channels within metal nanolayers. <i>Science Advances</i> , 2017 , 3, eaao2710	14.3	28
97	Interface-enhanced defect absorption between epitaxial anatase TiO ₂ film and single crystal SrTiO ₃ . <i>Scripta Materialia</i> , 2011 , 65, 807-810	5.6	28
96	Ion beam analysis of fusion plasma-facing materials and components: facilities and research challenges. <i>Nuclear Fusion</i> , 2020 , 60, 025001	3.3	28
95	Germanium-Assisted Direct Growth of Graphene on Arbitrary Dielectric Substrates for Heating Devices. <i>Small</i> , 2017 , 13, 1700929	11	26
94	Bubble formation and lattice parameter changes resulting from He irradiation of defect-fluorite Gd ₂ Zr ₂ O ₇ . <i>Acta Materialia</i> , 2016 , 115, 115-122	8.4	26
93	Hardening due to Interfacial He Bubbles in Nanolayered Composites. <i>Materials Research Letters</i> , 2016 , 4, 75-82	7.4	26
92	Probing nanoscale damage gradients in ion-irradiated metals using spherical nanoindentation. <i>Scientific Reports</i> , 2017 , 7, 11918	4.9	26
91	Enhanced radiation tolerance in immiscible Cu/Fe multilayers with coherent and incoherent layer interfaces. <i>Journal of Materials Research</i> , 2015 , 30, 1300-1309	2.5	25
90	Detailed transmission electron microscopy study on the mechanism of dislocation loop rafting in tungsten. <i>Acta Materialia</i> , 2018 , 147, 277-283	8.4	25
89	Quantifying the mechanical effects of He, W and He + W ion irradiation on tungsten with spherical nanoindentation. <i>Journal of Materials Science</i> , 2018 , 53, 5296-5316	4.3	25
88	Ion irradiation induced structural modifications and increase in elastic modulus of silica based thin films. <i>Scientific Reports</i> , 2017 , 7, 40100	4.9	23
87	Controllable growth of vertically oriented graphene for high sensitivity gas detection. <i>Journal of Materials Chemistry C</i> , 2019 , 7, 5995-6003	7.1	23
86	Effects of 3d electron configurations on helium bubble formation and void swelling in concentrated solid-solution alloys. <i>Acta Materialia</i> , 2019 , 181, 519-529	8.4	23
85	Temperature dependence of the radiation tolerance of nanocrystalline pyrochlores A ₂ Ti ₂ O ₇ (A = Gd, Ho and Lu). <i>Acta Materialia</i> , 2016 , 110, 175-184	8.4	23
84	Detection of helium bubble formation at fcc-bcc interfaces using neutron reflectometry. <i>Journal of Applied Physics</i> , 2013 , 114, 043505	2.5	21
83	Imaging the in-plane distribution of helium precipitates at a Cu/V interface. <i>Materials Research Letters</i> , 2017 , 5, 335-342	7.4	19
82	In situ TEM observation of helium bubble evolution in V/Ag multilayer during annealing. <i>Journal of Nuclear Materials</i> , 2015 , 467, 537-543	3.3	19
81	Irradiation-induced grain growth and defect evolution in nanocrystalline zirconia with doped grain boundaries. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 16921-9	3.6	18

80	Helium irradiation induced ultra-high strength nanotwinned Cu with nanovoids. <i>Acta Materialia</i> , 2019 , 177, 107-120	8.4	18
79	Role of ion species in radiation effects of Lu ₂ Ti ₂ O ₇ pyrochlore. <i>Journal of Alloys and Compounds</i> , 2017 , 693, 565-572	5.7	18
78	Interpreting nanovoids in atom probe tomography data for accurate local compositional measurements. <i>Nature Communications</i> , 2020 , 11, 1022	17.4	16
77	Effects of Fe concentration on helium bubble formation in NiFe single-phase concentrated solid solution alloys. <i>Materialia</i> , 2019 , 5, 100183	3.2	16
76	Conduction mechanisms of epitaxial EuTiO ₃ thin films. <i>Applied Physics Letters</i> , 2012 , 101, 102901	3.4	15
75	Bi-enhanced N incorporation in GaAsN _{Bi} alloys. <i>Applied Physics Letters</i> , 2017 , 110, 242102	3.4	14
74	He ⁺ ion irradiation response of Fe ₃ O ₄ multilayers. <i>Journal of Nuclear Materials</i> , 2013 , 435, 96-101	3.3	14
73	Nanohardness measurements of heavy ion irradiated coarse- and nanocrystalline-grained tungsten at room and high temperature. <i>Journal of Nuclear Materials</i> , 2018 , 509, 276-284	3.3	14
72	Micropillar compression response of femtosecond laser-cut single crystal Cu and proton irradiated Cu. <i>Scripta Materialia</i> , 2019 , 170, 145-149	5.6	13
71	Massively enhanced ionic transport in irradiated crystalline pyrochlore. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 3917-3923	13	13
70	Formation mechanisms of embedded wurtzite and zincblende indium nitride nanocrystals. <i>Applied Physics Letters</i> , 2011 , 99, 093108	3.4	13
69	A new mechanism for void-cascade interaction from nondestructive depth-resolved atomic-scale measurements of ion irradiation-induced defects in Fe. <i>Science Advances</i> , 2020 , 6, eaba8437	14.3	13
68	Combined effects of radiation damage and He accumulation on bubble nucleation in Gd ₂ Ti ₂ O ₇ . <i>Journal of Nuclear Materials</i> , 2016 , 479, 542-547	3.3	13
67	Thermal conductivity degradation and recovery in ion beam damaged tungsten at different temperature. <i>Journal of Nuclear Materials</i> , 2018 , 511, 141-147	3.3	13
66	Oxygen-vacancy-mediated dielectric property in perovskite Eu _{0.5} Ba _{0.5} TiO ₃ -epitaxial thin films. <i>Applied Physics Letters</i> , 2018 , 112, 182906	3.4	12
65	Orientation-specific amorphization and intercalated recrystallization at ion-irradiated SrTiO ₃ /MgO interfaces. <i>Journal of Materials Research</i> , 2014 , 29, 1699-1710	2.5	12
64	Order-to-disorder transformation in d-phase Sc ₄ Zr ₃ O ₁₂ induced by light ion irradiation. <i>Journal of Materials Research</i> , 2010 , 25, 248-254	2.5	12
63	Formation and transformation of embedded GaN nanocrystals. <i>Applied Physics Letters</i> , 2012 , 100, 203113	3.4	12

62	Characterization of irradiation damage distribution near TiO ₂ /SrTiO ₃ interfaces using coherent acoustic phonon interferometry. <i>Applied Physics Letters</i> , 2012 , 100, 251603	3.4	12
61	Isotope Effect in Bilayer WSe. <i>Nano Letters</i> , 2019 , 19, 1527-1533	11.5	12
60	Influence of nanochannel structure on helium-vacancy cluster evolution and helium retention. <i>Journal of Nuclear Materials</i> , 2019 , 527, 151822	3.3	11
59	Swelling effects in Y ₂ Ti ₂ O ₇ pyrochlore irradiated with 400 keV Ne ²⁺ ions. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2012 , 274, 182-187	1.2	11
58	Improved p-n heterojunction device performance induced by irradiation in amorphous boron carbide films. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2015 , 202, 25-30	3.1	11
57	He ion irradiation response of a gradient T91 steel. <i>Acta Materialia</i> , 2020 , 196, 175-190	8.4	10
56	Irradiation Enhances Strength and Deformability of Nano-Architected Metallic Glass. <i>Advanced Engineering Materials</i> , 2018 , 20, 1701055	3.5	10
55	Characterization of defect clusters in ion-irradiated tungsten by X-Ray diffuse scattering. <i>Journal of Nuclear Materials</i> , 2018 , 510, 322-330	3.3	10
54	The role of non-stoichiometric defects in radiation damage evolution of SrTiO ₃ . <i>Journal of Materials Chemistry A</i> , 2013 , 1, 9235	13	10
53	Locally defined quantum emission from epitaxial few-layer tungsten diselenide. <i>Applied Physics Letters</i> , 2019 , 114, 213102	3.4	9
52	Visualization of ultrafast melting initiated from radiation-driven defects in solids. <i>Science Advances</i> , 2019 , 5, eaaw0392	14.3	9
51	Helium retention in krypton ion pre-irradiated nanochannel W film. <i>Nuclear Fusion</i> , 2018 , 58, 026021	3.3	9
50	Role of the interface on radiation damage in the SrTiO ₃ /LaAlO ₃ heterostructure under Ne ²⁺ ion irradiation. <i>Journal of Applied Physics</i> , 2014 , 115, 124315	2.5	9
49	In Situ Micro-Pillar Compression to Examine Radiation-Induced Hardening Mechanisms of FeCrAl Alloys. <i>Acta Materialia</i> , 2021 , 202, 255-265	8.4	9
48	Radiation tolerance and microstructural changes of nanocrystalline Cu-Ta alloy to high dose self-ion irradiation. <i>Acta Materialia</i> , 2020 , 195, 621-630	8.4	8
47	An intermetallic forming steel under radiation for nuclear applications. <i>Journal of Nuclear Materials</i> , 2015 , 458, 361-368	3.3	8
46	Self-biased magnetoelectric switching at room temperature in three-phase ferroelectric-antiferromagnetic-ferrimagnetic nanocomposites. <i>Nature Electronics</i> , 2021 , 4, 333-341	28.4	8
45	Understanding the release of helium atoms from nanochannel tungsten: a molecular dynamics simulation. <i>Nuclear Fusion</i> , 2019 , 59, 076020	3.3	7

44	Annealing-induced lattice recovery in room-temperature xenon irradiated CeO ₂ : X-ray diffraction and electron energy loss spectroscopy experiments. <i>Journal of Materials Research</i> , 2015 , 30, 1555-1562	2.5	7
43	Sharp crack formation in low fluence hydrogen implanted Si _{0.75} Ge _{0.25} /B doped Si _{0.70} Ge _{0.30} /Si heterostructure. <i>Applied Physics Letters</i> , 2013 , 103, 142102	3.4	7
42	Ferromagnetic-Antiferromagnetic Coupling by Distortion of Fe/Mn Oxygen Octahedrons in (BiFeO ₃ / La Sr MnO ₃) Superlattices. <i>Small</i> , 2017 , 13, 1700107	11	6
41	He-ion irradiation effects on the microstructure stability and size-dependent mechanical behavior of high entropy alloy/Cu nanotwinned nanolaminates. <i>International Journal of Plasticity</i> , 2020 , 133, 102839	7.6	6
40	Seed-Initiated Synthesis and Tunable Doping Graphene for High-Performance Photodetectors. <i>Advanced Optical Materials</i> , 2019 , 7, 1901388	8.1	6
39	Influence of N incorporation on persistent photoconductivity in GaAsN alloys. <i>Physical Review B</i> , 2013 , 87,	3.3	6
38	Formation mechanisms of spatially-directed zincblende gallium nitride nanocrystals. <i>Journal of Applied Physics</i> , 2011 , 110, 124307	2.5	6
37	Highly Conductive Films of Layered Ternary Transition-Metal Nitrides. <i>Angewandte Chemie</i> , 2009 , 121, 1518-1521	3.6	5
36	Cr incorporated phase transformation in YO ₃ under ion irradiation. <i>Scientific Reports</i> , 2017 , 7, 40148	4.9	4
35	Swelling and Helium Bubble Morphology in a Cryogenically Treated FeCrNi Alloy with Martensitic Transformation and Reversion after Helium Implantation. <i>Materials</i> , 2019 , 12,	3.5	4
34	Mapping the composition-dependence of the energy bandgap of GaAsN _x Bi _{1-x} alloys. <i>Applied Physics Letters</i> , 2019 , 115, 082106	3.4	4
33	In-situ re-crystallization of heavily-irradiated Gd ₂ Ti ₂ O ₇ . <i>Acta Materialia</i> , 2020 , 194, 403-411	8.4	4
32	Mapping Cation Disorder in Irradiated Gd ₂ Ti ₂ O ₇ Pyrochlore by 4D-STEM. <i>Microscopy and Microanalysis</i> , 2019 , 25, 1560-1561	0.5	4
31	Investigating Effects of Alloy Chemical Complexity on Helium Bubble Formation by Accurate Segregation Measurements Using Atom Probe Tomography. <i>Microscopy and Microanalysis</i> , 2019 , 25, 1558-1559	0.5	4
30	Microstructural evolution of ion-irradiated sol-gel-derived thin films. <i>Journal of Materials Science</i> , 2017 , 52, 12109-12120	4.3	4
29	Oxygen Incorporation in ZnTeO Alloys via Molecular Beam Epitaxy. <i>Journal of Electronic Materials</i> , 2014 , 43, 889-893	1.9	4
28	Irradiation induced changes in small angle grain boundaries in mosaic Cu thin films. <i>Applied Physics A: Materials Science and Processing</i> , 2012 , 108, 121-126	2.6	4
27	Does sink efficiency unequivocally characterize how grain boundaries impact radiation damage?. <i>Physical Review Materials</i> , 2018 , 2,	3.2	4

26	Potential benefit of amorphization in the retention of gaseous species in irradiated pyrochlores. <i>Acta Materialia</i> , 2019 , 164, 250-260	8.4	4
25	Void-interface wetting to crossing transition owing to bubble to void transformation. <i>Applied Physics Letters</i> , 2020 , 116, 093703	3.4	3
24	Electrical and structural characterization of neutron irradiated amorphous boron carbide/silicon p-n heterojunctions. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2018 , 432, 48-54	1.2	2
23	Constructing high-performance radiation-resistant ternary YSZ-MgO-CNT nanocomposites via tailored nanostructures. <i>Journal of the European Ceramic Society</i> , 2021 , 41, 5280-5291	6	2
22	Different Radiation Tolerances of Ultrafine-Grained Zirconia-Magnesia Composite Ceramics with Different Grain Sizes. <i>Materials</i> , 2019 , 12,	3.5	1
21	Modeling Changes in Measured Conductance of Thin Boron Carbide Semiconducting Films Under Irradiation. <i>IEEE Transactions on Nuclear Science</i> , 2016 , 63, 2815-2822	1.7	1
20	Formation and transfer of GaAsN nanostructure layers. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2011 , 29, 060601	2.9	1
19	Damage relief of ion-irradiated Inconel alloy 718 via annealing. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2020 , 479, 157-162	1.2	1
18	Influence of metal nanocomposite morphology on Helium implantation response. <i>Scripta Materialia</i> , 2020 , 177, 229-233	5.6	1
17	Mechanical properties of Al ₂ O ₃ -functionalized nanoporous gold foams under irradiation. <i>Journal of Materials Research</i> , 2021 , 36, 2001-2009	2.5	1
16	Neutron irradiation induced defects in oxides and their impact on the oxide properties. <i>Journal of Applied Physics</i> , 2021 , 129, 215901	2.5	1
15	Helium Bubbles and Blistering in a Nanolayered Metal/Hydride Composite. <i>Materials</i> , 2021 , 14,	3.5	1
14	Effect of proton irradiation temperature on persistent photoconductivity in zinc oxide metal-semiconductor-metal ultraviolet photodetectors. <i>Journal of Applied Physics</i> , 2022 , 131, 155701	2.5	1
13	Comparative study of helium bubbles in a Ti-Ta alloy and a Ti/Ta nanocomposite. <i>Philosophical Magazine Letters</i> , 2020 , 100, 307-318	1	0
12	Unusual He-ion irradiation strengthening and inverse layer thickness-dependent strain rate sensitivity in transformable high-entropy alloy/metal nanolaminates: A comparison of Fe ₅₀ Mn ₃₀ Co ₁₀ Cr ₁₀ /Cu vs Fe ₅₀ Mn ₃₀ Co ₁₀ Ni ₁₀ /Cu. <i>Journal of Materials Science and Technology</i> , 2022 , 116, 199-213	9.1	0
11	Continuous Monitoring of Pure Fe Corrosion in Lead-Bismuth Eutectic Under Irradiation with Proton-Induced X-ray Emission Spectroscopy. <i>Jom</i> , 1	2.1	0
10	Helium partitioning to the core-shelled Ta nanoclusters in nanocrystalline Cu-Ta alloy. <i>Scripta Materialia</i> , 2022 , 208, 114344	5.6	0
9	Ultrafast visualization of incipient plasticity in dynamically compressed matter.. <i>Nature Communications</i> , 2022 , 13, 1055	17.4	0

8	The mechanism behind the high radiation tolerance of FeCr alloys. <i>Journal of Applied Physics</i> , 2022 , 131, 125903	2.5	0
7	Heat treatment of ion-irradiated silica-based thin films. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2019 , 447, 55-58	1.2	
6	The structural behavior of SrTiO ₃ under 400 keV Ne ²⁺ ion irradiation. <i>Applied Physics A: Materials Science and Processing</i> , 2015 , 121, 1211-1217	2.6	
5	Radiation Response and Recovery of Gd ₂ Ti ₂ Q ₇ Pyrochlore. <i>Microscopy and Microanalysis</i> , 2018 , 24, 1956-1957	15.6	
4	Interpreting Voids in Atom Probe Tomography Data via Experiment and Theory. <i>Microscopy and Microanalysis</i> , 2019 , 25, 290-291	0.5	
3	Graphene: Synthesis of Layer-Tunable Graphene: A Combined Kinetic Implantation and Thermal Ejection Approach (Adv. Funct. Mater. 24/2015). <i>Advanced Functional Materials</i> , 2015 , 25, 3796-3796	15.6	
2	Uranium Hydride Formation Study as Observed by Scanning Surface Potential Imaging. <i>Materials Research Society Symposia Proceedings</i> , 2006 , 986, 1		
1	Microstructural Effects of High Dose Helium Implantation in ErD ₂ . <i>Materialia</i> , 2021 , 101280	3.2	