

Robert O. Ritchie

List of Publications by Year in descending order

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748
papers

73,623
citations

599

128
h-index

1040

242
g-index

777
all docs

777
docs citations

777
times ranked

41928
citing authors

#	ARTICLE	IF	CITATIONS
1	Bioinspired fish-scale-like magnesium composites strengthened by contextures of continuous titanium fibers: Lessons from nature. <i>Journal of Magnesium and Alloys</i> , 2023, 11, 869-881.	5.5	6
2	Manipulating internal flow units toward favorable plasticity in Zr-based bulk-metallic glasses by hydrogenation. <i>Journal of Materials Science and Technology</i> , 2022, 102, 36-45.	5.6	16
3	Bioinspired tungsten-copper composites with Bouligand-type architectures mimicking fish scales. <i>Journal of Materials Science and Technology</i> , 2022, 96, 21-30.	5.6	16
4	Physical Properties of High Entropy Alloys. , 2022, , 474-483.		0
5	Bone manganese is a sensitive biomarker of ongoing elevated manganese exposure, but does not accumulate across the lifespan. <i>Environmental Research</i> , 2022, 204, 112355.	3.7	8
6	Fatigue-crack propagation behavior in a high-carbon chromium SUJ2 bearing steel: Role of microstructure. <i>International Journal of Fatigue</i> , 2022, 156, 106693.	2.8	11
7	Comparison of toughening mechanisms in natural silk-reinforced composites with three epoxy resin matrices. <i>Composites Part A: Applied Science and Manufacturing</i> , 2022, 154, 106760.	3.8	32
8	Cantor-derived medium-entropy alloys: bridging the gap between traditional metallic and high-entropy alloys. <i>Journal of Materials Research and Technology</i> , 2022, 17, 1868-1895.	2.6	44
9	Fracture properties of high-entropy alloys. <i>MRS Bulletin</i> , 2022, 47, 176-185.	1.7	11
10	High-entropy materials. <i>MRS Bulletin</i> , 2022, 47, 145-150.	1.7	22
11	Role of chemical disorder on radiation-induced defect production and damage evolution in NiFeCoCr. <i>Journal of Nuclear Materials</i> , 2022, 565, 153689.	1.3	3
12	Interfacial characterization and its influence on the corrosion behavior of Mg-SiO ₂ nanocomposites. <i>Acta Materialia</i> , 2022, 230, 117840.	3.8	13
13	Response to Comment on "Cryoforged nanotwinned titanium with ultrahigh strength and ductility". <i>Science</i> , 2022, 376, eabo5247.	6.0	2
14	Conductive Ink with Circular Life Cycle for Printed Electronics. <i>Advanced Materials</i> , 2022, 34, e2202177.	11.1	20
15	Anomalous size effect on yield strength enabled by compositional heterogeneity in high-entropy alloy nanoparticles. <i>Nature Communications</i> , 2022, 13, 2789.	5.8	26
16	On the damage tolerance of 3-D printed Mg-Ti interpenetrating-phase composites with bioinspired architectures. <i>Nature Communications</i> , 2022, 13, .	5.8	58
17	Understanding effects of chemical complexity on helium bubble formation in Ni-based concentrated solid solution alloys based on elemental segregation measurements. <i>Journal of Nuclear Materials</i> , 2022, 569, 153902.	1.3	4
18	Optimizing the microstructures and mechanical properties of Al-Cu-based alloys with large solidification intervals by coupling travelling magnetic fields with sequential solidification. <i>Journal of Materials Science and Technology</i> , 2021, 61, 100-113.	5.6	18

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19	Annealed microstructure dependent corrosion behavior of Ti-6Al-3Nb-2Zr-1Mo alloy. Journal of Materials Science and Technology, 2021, 62, 234-248.	5.6	68
20	Origin of strong solid solution strengthening in the CrCoNi-W medium entropy alloy. Journal of Materials Science and Technology, 2021, 73, 101-107.	5.6	39
21	Heterostructured materials: superior properties from hetero-zone interaction. Materials Research Letters, 2021, 9, 1-31.	4.1	505
22	Diffusion-mediated chemical concentration variation and void evolution in ion-irradiated NiCoFeCr high-entropy alloy. Journal of Materials Research, 2021, 36, 298-310.	1.2	15
23	Application to subcritical crack growth. , 2021, , 101-138.		0
24	Micromechanics modeling of fracture. , 2021, , 81-99.		1
25	Nonlinear-elastic fracture mechanics (NLEFM). , 2021, , 49-74.		0
26	Linear-elastic fracture mechanics (LEFM). , 2021, , 11-48.		1
27	Universal nature of the saddle states of structural excitations in metallic glasses. Materials Today Physics, 2021, 17, 100359.	2.9	20
28	Magnetically driven short-range order can explain anomalous measurements in CrCoNi. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	56
29	Architected cellular materials: A review on their mechanical properties towards fatigue-tolerant design and fabrication. Materials Science and Engineering Reports, 2021, 144, 100606.	14.8	316
30	Near-complete depolymerization of polyesters with nano-dispersed enzymes. Nature, 2021, 592, 558-563.	13.7	129
31	Strong and Tough Bioinspired Additive-Manufactured Dual-Phase Mechanical Metamaterial Composites. Journal of the Mechanics and Physics of Solids, 2021, 149, 104341.	2.3	72
32	Compressive properties of 3-D printed Mgâ€“NiTi interpenetrating-phase composite: Effects of strain rate and temperature. Composites Part B: Engineering, 2021, 215, 108783.	5.9	16
33	Toughening materials: enhancing resistance to fracture. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200437.	1.6	32
34	Hydration-induced reversible deformation of the pine cone. Acta Biomaterialia, 2021, 128, 370-383.	4.1	24
35	In situ observation of the deformation and fracture of an alumina-alumina ceramic-matrix composite at elevated temperature using x-ray computed tomography. Journal of the European Ceramic Society, 2021, 41, 4217-4230.	2.8	20
36	Impact of hydration on the mechanical properties and damage mechanisms of natural silk fibre reinforced composites. Composites Part A: Applied Science and Manufacturing, 2021, 147, 106458.	3.8	11

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37	Atomistic simulations of dislocation mobility in refractory high-entropy alloys and the effect of chemical short-range order. <i>Nature Communications</i> , 2021, 12, 4873.	5.8	138
38	An Amorphous Peri-Implant Ligament with Combined Osteointegration and Energy Dissipation. <i>Advanced Materials</i> , 2021, 33, e2103727.	11.1	18
39	The dependence of stress and strain rate on the deformation behavior of a Ni-based single crystal superalloy at 1050°C. <i>International Journal of Mechanical System Dynamics</i> , 2021, 1, 121-131.	1.3	6
40	Cryoforged nanotwinned titanium with ultrahigh strength and ductility. <i>Science</i> , 2021, 373, 1363-1368.	6.0	155
41	Flaw-insensitive fracture of a micrometer-sized brittle metallic glass. <i>Acta Materialia</i> , 2021, 218, 117219.	3.8	17
42	Compression fatigue properties and damage mechanisms of a bioinspired nacre-like ceramic-polymer composite. <i>Scripta Materialia</i> , 2021, 203, 114089.	2.6	16
43	Full-field characterisation of oxide-oxide ceramic-matrix composites using X-ray computed micro-tomography and digital volume correlation under load at high temperatures. <i>Materials and Design</i> , 2021, 208, 109899.	3.3	21
44	Dissipative dual-phase mechanical metamaterial composites via architectural design. <i>Extreme Mechanics Letters</i> , 2021, 48, 101442.	2.0	30
45	Dual-gradient structure leads to optimized combination of high fracture resistance and strength-ductility synergy with minimized final catastrophic failure. <i>Journal of Materials Research and Technology</i> , 2021, 15, 901-910.	2.6	7
46	First-principles calculation of lattice distortions in four single phase high entropy alloys with experimental validation. <i>Materials and Design</i> , 2021, 209, 110071.	3.3	15
47	Collagen Fiber Orientation Is Coupled with Specific Nano-Compositional Patterns in Dark and Bright Osteons Modulating Their Biomechanical Properties. <i>ACS Nano</i> , 2021, 15, 455-467.	7.3	28
48	Amorphization in extreme deformation of the CrMnFeCoNi high-entropy alloy. <i>Science Advances</i> , 2021, 7, .	4.7	140
49	Modeling the Hydrogen Effect on the Constitutive Response of a Low Carbon Steel in Cyclic Loading. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2021, 88, .	1.1	3
50	Diffusion-mediated chemical concentration variation and void evolution in ion-irradiated NiCoFeCr high-entropy alloy. <i>Journal of Materials Research</i> , 2021, 36, 1-13.	1.2	3
51	The dynamic evolution of swelling in nickel concentrated solid solution alloys through in situ property monitoring. <i>Applied Materials Today</i> , 2021, 25, 101187.	2.3	4
52	An in situ ambient and cryogenic transmission electron microscopy study of the effects of temperature on dislocation behavior in CrCoNi-based high-entropy alloys with low stacking-fault energy. <i>Applied Physics Letters</i> , 2021, 119, .	1.5	8
53	Nanoparticle additions promote outstanding fracture toughness and fatigue strength in a cast Al-Cu alloy. <i>Materials and Design</i> , 2020, 186, 108221.	3.3	17
54	On the exceptional damage-tolerance of gradient metallic materials. <i>Materials Today</i> , 2020, 32, 94-107.	8.3	89

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55	Intrinsic toughness of the bulk-metallic glass Vitreloy 105 measured using micro-cantilever beams. <i>Acta Materialia</i> , 2020, 183, 242-248.	3.8	20
56	Electron-phonon coupling induced defect recovery and strain relaxation in Ni and equiatomic NiFe alloy. <i>Computational Materials Science</i> , 2020, 173, 109394.	1.4	9
57	Structural Orientation and Anisotropy in Biological Materials: Functional Designs and Mechanics. <i>Advanced Functional Materials</i> , 2020, 30, 1908121.	7.8	59
58	On the Strength of Hair across Species. <i>Matter</i> , 2020, 2, 136-149.	5.0	18
59	Interfacial toughening effect of suture structures. <i>Acta Biomaterialia</i> , 2020, 102, 75-82.	4.1	28
60	X-ray tomography study on the crushing strength and irradiation behaviour of dedicated tristructural isotropic nuclear fuel particles at 1000°C. <i>Materials and Design</i> , 2020, 187, 108382.	3.3	13
61	From suppressed void growth to significant void swelling in NiCoFeCr complex concentrated solid-solution alloy. <i>Materialia</i> , 2020, 9, 100603.	1.3	22
62	Processing, Microstructures and Mechanical Properties of a Ni-Based Single Crystal Superalloy. <i>Crystals</i> , 2020, 10, 572.	1.0	21
63	Tough Nature-Inspired Helicoidal Composites with Printing-Induced Voids. <i>Cell Reports Physical Science</i> , 2020, 1, 100109.	2.8	27
64	The role of collagen in the dermal armor of the boxfish. <i>Journal of Materials Research and Technology</i> , 2020, 9, 13825-13841.	2.6	7
65	Offering Toughness and Protection, Arapaima Scales Provide Effective Defense against Predation. <i>Matter</i> , 2020, 3, 1979-1980.	5.0	0
66	On the gular sac tissue of the brown pelican: Structural characterization and mechanical properties. <i>Acta Biomaterialia</i> , 2020, 118, 161-181.	4.1	3
67	Ab initio modeling of the energy landscape for screw dislocations in body-centered cubic high-entropy alloys. <i>Npj Computational Materials</i> , 2020, 6, .	3.5	58
68	Structure and Mechanical Adaptability of a Modern Elasmoid Fish Scale from the Common Carp. <i>Matter</i> , 2020, 3, 842-863.	5.0	47
69	Nacre toughening due to cooperative plastic deformation of stacks of co-oriented aragonite platelets. <i>Communications Materials</i> , 2020, 1, .	2.9	24
70	Human Cortical Bone as a Structural Material. , 2020, , 20-44.		0
71	Effects of cryogenic temperature and grain size on fatigue-crack propagation in the medium-entropy CrCoNi alloy. <i>Acta Materialia</i> , 2020, 200, 351-365.	3.8	76
72	Short-range order and its impact on the CrCoNi medium-entropy alloy. <i>Nature</i> , 2020, 581, 283-287.	13.7	672

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73	Making ultrastrong steel tough by grain-boundary delamination. <i>Science</i> , 2020, 368, 1347-1352.	6.0	200
74	3D printed Mg-NiTi interpenetrating-phase composites with high strength, damping capacity, and energy absorption efficiency. <i>Science Advances</i> , 2020, 6, eaba5581.	4.7	87
75	Active defense mechanisms of thorny catfish. <i>Materials Today</i> , 2020, 38, 35-48.	8.3	8
76	Dislocation loop evolution and radiation hardening in nickel-based concentrated solid solution alloys. <i>Journal of Nuclear Materials</i> , 2020, 538, 152247.	1.3	22
77	The influence of mean strain on the high-cycle fatigue of Nitinol with application to medical devices. <i>Journal of the Mechanics and Physics of Solids</i> , 2020, 143, 104057.	2.3	24
78	Mechanical properties and toughening mechanisms of natural silkworm silks and their composites. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2020, 110, 103942.	1.5	18
79	Controlled Cryogelation and Catalytic Cross-Linking Yields Highly Elastic and Robust Silk Fibroin Scaffolds. <i>ACS Biomaterials Science and Engineering</i> , 2020, 6, 4512-4522.	2.6	13
80	Eutectic Crystallization: Multi-Step Crystallization of Self-Organized Spiral Eutectics (Small 8/2020). <i>Small</i> , 2020, 16, 2070039.	5.2	0
81	Interpreting nanovoids in atom probe tomography data for accurate local compositional measurements. <i>Nature Communications</i> , 2020, 11, 1022.	5.8	23
82	Extreme Fermi Surface Smearing in a Maximally Disordered Concentrated Solid Solution. <i>Physical Review Letters</i> , 2020, 124, 046402.	2.9	20
83	Compressive ductility and fracture resistance in CuZr-based shape-memory metallic-glass composites. <i>International Journal of Plasticity</i> , 2020, 128, 102687.	4.1	33
84	Real-time observations of TRIP-induced ultrahigh strain hardening in a dual-phase CrMnFeCoNi high-entropy alloy. <i>Nature Communications</i> , 2020, 11, 826.	5.8	165
85	Multi-Step Crystallization of Self-Organized Spiral Eutectics. <i>Small</i> , 2020, 16, e1906146.	5.2	11
86	Unfolding the complexity of phonon quasi-particle physics in disordered materials. <i>Npj Computational Materials</i> , 2020, 6, .	3.5	22
87	Scalable Electrically Conductive Spray Coating Based on Block Copolymer Nanocomposites. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 8687-8694.	4.0	12
88	Long-Term Immobilization in Elderly Females Causes a Specific Pattern of Cortical Bone and Osteocyte Deterioration Different From Postmenopausal Osteoporosis. <i>Journal of Bone and Mineral Research</i> , 2020, 35, 1343-1351.	3.1	47
89	Ice-templated porous tungsten and tungsten carbide inspired by natural wood. <i>Journal of Materials Science and Technology</i> , 2020, 45, 187-197.	5.6	33
90	Site occupancy of alloying elements in γ' phase of nickel-base single crystal superalloys. <i>Intermetallics</i> , 2020, 121, 106772.	1.8	23

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91	Tensile creep behavior of an equiatomic CoCrNi medium entropy alloy. <i>Intermetallics</i> , 2020, 121, 106775.	1.8	23
92	On the impact toughness of gradient-structured metals. <i>Acta Materialia</i> , 2020, 193, 125-137.	3.8	70
93	On the Fracture Behavior of Bulk Metallic Glasses. <i>Structural Integrity</i> , 2019, , 331-332.	0.8	0
94	Interpreting Voids in Atom Probe Tomography Data via Experiment and Theory. <i>Microscopy and Microanalysis</i> , 2019, 25, 290-291.	0.2	0
95	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.	0.2	6
96	Synthesis of bioinspired ice-templated bulk metallic glass-alumina composites with intertwined dendritic structure. <i>Scripta Materialia</i> , 2019, 172, 159-164.	2.6	13
97	Integrating tough <i>Antheraea pernyi</i> silk and strong carbon fibres for impact-critical structural composites. <i>Nature Communications</i> , 2019, 10, 3786.	5.8	70
98	Biomimetics: On the Origins of Fracture Toughness in Advanced Teleosts: How the Swordfish Sword's Bone Structure and Composition Allow for Slashing under Water to Kill or Stun Prey (<i>Adv. Sci.</i>)	10.0	5045
99	Hyperelastic phase-field fracture mechanics modeling of the toughening induced by Bouligand structures in natural materials. <i>Journal of the Mechanics and Physics of Solids</i> , 2019, 131, 204-220.	2.3	50
100	Multiscale Toughening Mechanisms in Biological Materials and Bioinspired Designs. <i>Advanced Materials</i> , 2019, 31, e1901561.	11.1	342
101	Plastic deformation mechanism of Ti-Nb-Ta-Zr-O alloy at cryogenic temperatures. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 765, 138293.	2.6	11
102	Arapaima Fish Scale: One of the Toughest Flexible Biological Materials. <i>Matter</i> , 2019, 1, 1557-1566.	5.0	40
103	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.	3.8	40
104	Nature-Inspired Nacre-Like Composites Combining Human Tooth-Matching Elasticity and Hardness with Exceptional Damage Tolerance. <i>Advanced Materials</i> , 2019, 31, e1904603.	11.1	73
105	Four Dimensional Scanning Transmission Electron Microscopy during the in situ Annealing of a CuZrAl Bulk Metallic Glass. <i>Microscopy and Microanalysis</i> , 2019, 25, 1470-1471.	0.2	0
106	Strong, Fracture-Resistant Biomimetic Silicon Carbide Composites with Laminated Interwoven Nanoarchitectures Inspired by the Crustacean Exoskeleton. <i>ACS Applied Nano Materials</i> , 2019, 2, 1111-1119.	2.4	22
107	Facile self-assembly synthesis of Fe_3O_4 /graphene oxide for enhanced photo-Fenton reaction. <i>Environmental Pollution</i> , 2019, 248, 229-237.	3.7	59
108	Bioinspired Nacre-Like Alumina with a Metallic Nickel Compliant Phase Fabricated by Spark Plasma Sintering. <i>Small</i> , 2019, 15, 1900573.	5.2	28

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109	High-entropy alloys. <i>Nature Reviews Materials</i> , 2019, 4, 515-534.	23.3	2,188
110	Helical van der Waals crystals with discretized Eshelby twist. <i>Nature</i> , 2019, 570, 358-362.	13.7	91
111	Irradiation effects of medium-entropy alloy NiCoCr with and without pre-indentation. <i>Journal of Nuclear Materials</i> , 2019, 524, 60-66.	1.3	25
112	Direct measurement of nanostructural change during in situ deformation of a bulk metallic glass. <i>Nature Communications</i> , 2019, 10, 2445.	5.8	46
113	On the onset of deformation twinning in the CrFeMnCoNi high-entropy alloy using a novel tensile specimen geometry. <i>Intermetallics</i> , 2019, 110, 106469.	1.8	21
114	Defect evolution in Ni and NiCoCr by in situ 2.8 MeV Au irradiation. <i>Journal of Nuclear Materials</i> , 2019, 523, 502-509.	1.3	15
115	Temperature-dependent defect accumulation and evolution in Ni-irradiated NiFe concentrated solid-solution alloy. <i>Journal of Nuclear Materials</i> , 2019, 519, 1-9.	1.3	16
116	Investigating sluggish diffusion in a concentrated solid solution alloy using ion irradiation with in situ TEM. <i>Intermetallics</i> , 2019, 110, 106461.	1.8	22
117	Temperature and load-ratio dependent fatigue-crack growth in the CrMnFeCoNi high-entropy alloy. <i>Journal of Alloys and Compounds</i> , 2019, 794, 525-533.	2.8	74
118	How Water Can Affect Keratin: Hydration-Driven Recovery of Bighorn Sheep (<i>Ovis Canadensis</i>) Horns. <i>Advanced Functional Materials</i> , 2019, 29, 1901077.	7.8	29
119	On the Origins of Fracture Toughness in Advanced Teleosts: How the Swordfish Sword's Bone Structure and Composition Allow for Slashing under Water to Kill or Stun Prey. <i>Advanced Science</i> , 2019, 6, 1900287.	5.6	14
120	Structural origins for the generation of strength, ductility and toughness in bulk-metallic glasses using hydrogen microalloying. <i>Acta Materialia</i> , 2019, 171, 216-230.	3.8	47
121	Light but tough bio-inherited materials: Luffa sponge based nickel-plated composites. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2019, 94, 10-18.	1.5	23
122	Mechanical Competence and Bone Quality Develop During Skeletal Growth. <i>Journal of Bone and Mineral Research</i> , 2019, 34, 1461-1472.	3.1	41
123	Shape-preserving machining produces gradient nanolaminate medium entropy alloys with high strain hardening capability. <i>Acta Materialia</i> , 2019, 170, 176-186.	3.8	41
124	Real-time nanoscale observation of deformation mechanisms in CrCoNi-based medium- to high-entropy alloys at cryogenic temperatures. <i>Materials Today</i> , 2019, 25, 21-27.	8.3	167
125	A comparative characterization of defect structure in NiCo and NiFe equimolar solid solution alloys under in situ electron irradiation. <i>Scripta Materialia</i> , 2019, 166, 96-101.	2.6	5
126	Predicting surface deformation during mechanical attrition of metallic alloys. <i>Npj Computational Materials</i> , 2019, 5, .	3.5	23

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127	A natural energy absorbent polymer composite: The equine hoof wall. <i>Acta Biomaterialia</i> , 2019, 90, 267-277.	4.1	47
128	Bioinspired nacre-like alumina with a bulk-metallic glass-forming alloy as a compliant phase. <i>Nature Communications</i> , 2019, 10, 961.	5.8	106
129	Characterization of the Interfacial Toughness in a Novel α -GaN-on-Diamond Material for High-Power RF Devices. <i>ACS Applied Electronic Materials</i> , 2019, 1, 354-369.	2.0	13
130	Architecture of high-strength aluminum matrix composites processed by a novel microcasting technique. <i>NPG Asia Materials</i> , 2019, 11, .	3.8	34
131	Tuning element distribution, structure and properties by composition in high-entropy alloys. <i>Nature</i> , 2019, 574, 223-227.	13.7	874
132	High-temperature damage-tolerance of coextruded, bioinspired (α -nacre-like), alumina/nickel compliant-phase ceramics. <i>Scripta Materialia</i> , 2019, 158, 110-115.	2.6	25
133	Mechanical properties of high-entropy alloys with emphasis on face-centered cubic alloys. <i>Progress in Materials Science</i> , 2019, 102, 296-345.	16.0	634
134	Adaptive structural reorientation: Developing extraordinary mechanical properties by constrained flexibility in natural materials. <i>Acta Biomaterialia</i> , 2019, 86, 96-108.	4.1	31
135	Structural architectures with toughening mechanisms in Nature: A review of the materials science of Type-I collagenous materials. <i>Progress in Materials Science</i> , 2019, 103, 425-483.	16.0	78
136	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.	3.8	44
137	Mechanical properties and impact performance of silk-epoxy resin composites modulated by flax fibres. <i>Composites Part A: Applied Science and Manufacturing</i> , 2019, 117, 357-368.	3.8	56
138	Fracture toughness of ultra-high molecular weight polyethylene: A basis for defining the crack-initiation toughness in polymers. <i>Journal of the Mechanics and Physics of Solids</i> , 2019, 122, 435-449.	2.3	9
139	Radiation-induced extreme elastic and inelastic interactions in concentrated solid solutions. <i>Materials and Design</i> , 2018, 150, 1-8.	3.3	15
140	Spatial correlation of elastic heterogeneity tunes the deformation behavior of metallic glasses. <i>Npj Computational Materials</i> , 2018, 4, .	3.5	70
141	A study of size effects in bioinspired, α -nacre-like, metal-compliant-phase (nickel-alumina) coextruded ceramics. <i>Acta Materialia</i> , 2018, 148, 147-155.	3.8	56
142	Increasing M_{2} Loading in Selective Mixed-Matrix Membranes: A Rubber Toughening Approach. <i>Chemistry of Materials</i> , 2018, 30, 1484-1495.	3.2	41
143	Contributions of Material Properties and Structure to Increased Bone Fragility for a Given Bone Mass in the UCD-T2DM Rat Model of Type 2 Diabetes. <i>Journal of Bone and Mineral Research</i> , 2018, 33, 1066-1075.	3.1	57
144	Fatigue as the missing link between bone fragility and fracture. <i>Nature Biomedical Engineering</i> , 2018, 2, 62-71.	11.6	57

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145	Hydrogen-enhanced-plasticity mediated decohesion for hydrogen-induced intergranular and quasi-cleavage fracture of lath martensitic steels. <i>Journal of the Mechanics and Physics of Solids</i> , 2018, 112, 403-430.	2.3	225
146	Electrically reversible cracks in an intermetallic film controlled by an electric field. <i>Nature Communications</i> , 2018, 9, 41.	5.8	53
147	Microband induced plasticity and the temperature dependence of the mechanical properties of a carbon-doped FeNiMnAlCr high entropy alloy. <i>Materials Characterization</i> , 2018, 139, 373-381.	1.9	44
148	Microscopic mechanisms of deformation transfer in high dynamic range branched nanoparticle deformation sensors. <i>Nature Communications</i> , 2018, 9, 1155.	5.8	4
149	Nature-Inspired Hierarchical Steels. <i>Scientific Reports</i> , 2018, 8, 5088.	1.6	47
150	Influence of compositional complexity on interdiffusion in Ni-containing concentrated solid-solution alloys. <i>Materials Research Letters</i> , 2018, 6, 293-299.	4.1	52
151	Lattice Distortion and Phase Stability of Pd-Doped NiCoFeCr Solid-Solution Alloys. <i>Entropy</i> , 2018, 20, 900.	1.1	27
152	Design and strengthening mechanisms in hierarchical architected materials processed using additive manufacturing. <i>International Journal of Mechanical Sciences</i> , 2018, 149, 150-163.	3.6	91
153	Hydration-induced nano- to micro-scale self-recovery of the tooth enamel of the giant panda. <i>Acta Biomaterialia</i> , 2018, 81, 267-277.	4.1	19
154	Novel Defense Mechanisms in the Armor of the Scales of the "Living Fossil" Coelacanth Fish. <i>Advanced Functional Materials</i> , 2018, 28, 1804237.	7.8	61
155	Melts of CrCoNi-based high-entropy alloys: Atomic diffusion and electronic/atomic structure from <i>ab initio</i> simulation. <i>Applied Physics Letters</i> , 2018, 113, .	1.5	27
156	Irradiation responses and defect behavior of single-phase concentrated solid solution alloys. <i>Journal of Materials Research</i> , 2018, 33, 3077-3091.	1.2	47
157	In situ neutron diffraction study on tensile deformation behavior of carbon-strengthened CoCrFeMnNi high-entropy alloys at room and elevated temperatures. <i>Journal of Materials Research</i> , 2018, 33, 3192-3203.	1.2	7
158	Nanometer-scale gradient atomic packing structure surrounding soft spots in metallic glasses. <i>Npj Computational Materials</i> , 2018, 4, .	3.5	37
159	Enhanced strength and ductility of a tungsten-doped CoCrNi medium-entropy alloy. <i>Journal of Materials Research</i> , 2018, 33, 3301-3309.	1.2	51
160	Single-Phase Concentrated Solid-Solution Alloys: Bridging Intrinsic Transport Properties and Irradiation Resistance. <i>Frontiers in Materials</i> , 2018, 5, .	1.2	45
161	On the theoretical modeling of fatigue crack growth. <i>Journal of the Mechanics and Physics of Solids</i> , 2018, 121, 341-362.	2.3	55
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