Ruth Schwaiger

List of Publications by Year
in descending order

109 papers	5,394 citations	136885 32 h-index	85498 71 g-index
112 all docs	112 docs citations	112 times ranked	5003 citing authors

#	Article	IF	Citations
1	Oxidation and creep behavior of textured Ti2AlC and Ti3AlC2. Journal of the European Ceramic Society, 2022, 42, 364-375.	2.8	10
2	Coatings for Coreâ€“Shell Composite Microâ€Lattice Structures: Varying Sputtering Parameters. Advanced Engineering Materials, 2022, 24, 2101264.	1.6	4
3	Conductivity, microstructure and mechanical properties of tape-cast LATP with LiF and SiO2 additives. Journal of Materials Science, 2022, 57, 925-938.	1.7	14
4	Ternary Vss-V3Si-V5SiB2 eutectic formation in the V-Si-B system. Journal of Alloys and Compounds, 2022, 902, 163722.	2.8	1
5	Comparison of different safety concepts for evaluation of molten salt receivers. Solar Energy, 2022, 234, 119-127.	2.9	4
6	Mechanical properties of BaCe0.65Zr0.2Y0.15O3- â€" Ce0.85Gd0.15O2- dual-phase proton-conducting material with emphasis on micro-pillar splitting. Journal of the European Ceramic Society, 2022, 42, 3948-3956.	2.8	1
7	Abrasive behavior of M2AlX MAX phase materials and its relation to the brittleness index. Ceramics International, 2022, 48, 19501-19506.	2.3	2
8	Strength assessment of Al2O3 and MgAl2O4 using micro- and macro-scale biaxial tests. Journal of Materials Science, 2022, 57, 7481-7490.	1.7	4
9	Interactions between carbon-based nanoparticles and steroid hormone micropollutants in water. Journal of Hazardous Materials, 2021, 402, 122929.	6.5	21
10	Optimization of sintering conditions for improved microstructural and mechanical properties of dense Ce0.8Gd0.2O2--FeCo2O4 oxygen transport membranes. Journal of the European Ceramic Society, 2021, 41, 509-516.	2.8	15
11	Mechanical reliability of Ce 0.8 Gd 0.2 O 2â^' Î´ â€FeCo 2 O 4 dual phase membranes synthesized by oneâ€step solidâ€state reaction. Journal of the American Ceramic Society, 2021, 104, 1814-1830.	1.9	6
12	How Triboâ€Oxidation Alters the Tribological Properties of Copper and Its Oxides. Advanced Materials Interfaces, 2021, 8, 2001673.	1.9	12
13	Triboâ€Chemistry: How Triboâ€Oxidation Alters the Tribological Properties of Copper and Its Oxides (Adv.) Tj ETQq1 1 0.784314 rgBT /O	1.9	0
14	High temperature compressive creep behavior of BaCe_{0.65}Zr_{0.2}Y_{0.15}O_{3â^'Î´} in air and 4% H₂/Ar. Journal of the American Ceramic Society, 2021, 104, 2730-2740.	1.9	1
15	A review of coated nano- and micro-lattice materials. Journal of Materials Research, 2021, 36, 3607-3627.	1.2	10
16	The indentation size effect of single-crystalline tungsten revisited. Journal of Materials Research, 2021, 36, 2166-2175.	1.2	15
17	Enhancing oxygen permeation of solid-state reactive sintered Ce0.8Gd0.2O2--FeCo2O4 composite by optimizing the powder preparation method. Journal of Membrane Science, 2021, 628, 119248.	4.1	15
18	Controlling shear band instability by nanoscale heterogeneities in metallic nanoglasses. Journal of Materials Research, 2021, 36, 2903-2914.	1.2	8

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19	Architectural tunability of mechanical metamaterials in the nanometer range. MRS Advances, 2021, 6, 507-512.	0.5	3
20	Fracture behavior of solid electrolyte LATP material based on micro-pillar splitting method. Journal of the European Ceramic Society, 2021, 41, 5240-5247.	2.8	8
21	Monitoring of service life consumption for tubular solar receivers: Review of contemporary thermomechanical and damage modeling approaches. Solar Energy, 2021, 226, 427-445.	2.9	10
22	A combined experimental and modeling study revealing the anisotropic mechanical response of Ti2AlN MAX phase. Journal of the European Ceramic Society, 2021, 41, 5872-5881.	2.8	11
23	Residual stress and mechanical strength of Ce0.8Gd0.2O2--FeCo2O4 dual phase oxygen transport membranes. Journal of the European Ceramic Society, 2021, 41, 6539-6547.	2.8	3
24	pH-Induced Modulation of Vibrio fischeri Population Life Cycle. Chemosensors, 2021, 9, 283.	1.8	3
25	In situ Micro-pyrolysis of 3D Nano-printed Electron Beam Sensitive Metamaterials. Microscopy and Microanalysis, 2021, 27, 83-84.	0.2	1
26	Dislocation structures and the role of grain boundaries in cyclically deformed Ni micropillars. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 769, 138295.	2.6	13
27	Influence of Interface Proximity on Precipitation Thermodynamics. Metals, 2020, 10, 1292.	1.0	1
28	Mechanical properties of BaCe0.65Zr0.2Y0.15O3- proton-conducting material determined using different nanoindentation methods. Journal of the European Ceramic Society, 2020, 40, 5653-5661.	2.8	12
29	Nanoglassâ€“Nanocrystal Compositeâ€"a Novel Material Class for Enhanced Strengthâ€“Plasticity Synergy. Small, 2020, 16, e2004400.	5.2	12
30	Influence of topological structure and chemical segregation on the thermal and mechanical properties of Pdâ€“Si nanoglasses. Acta Materialia, 2020, 193, 252-260.	3.8	24
31	Nanoscale patterning at the Si/SiO2/graphene interface by focused He+ beam. Nanotechnology, 2020, 31, 505302.	1.3	2
32	Pattern formation during deformation of metallic nanolaminates. Physical Review Materials, 2020, 4, .	0.9	7
33	Sliding wear behavior of fully nanotwinned Cu alloys. Friction, 2019, 7, 260-267.	3.4	19
34	Surface flaws control strain localization in the deformation of Cu|Au nanolaminate pillars. MRS Communications, 2019, 9, 1067-1071.	0.8	3
35	The extreme mechanics of micro- and nanoarchitected materials. MRS Bulletin, 2019, 44, 758-765.	1.7	48
36	Impact of in situ nanomechanics on physical metallurgy. MRS Bulletin, 2019, 44, 465-470.	1.7	12

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37	New Twists of 3D Chiral Metamaterials. Advanced Materials, 2019, 31, e1807742.	11.1	130
38	Datasets for the analysis of dislocations at grain boundaries and during vein formation in cyclically deformed Ni micropillars. Data in Brief, 2019, 27, 104724.	0.5	0
39	Size Effect on the Strength and Deformation Behavior of Glassy Carbon Nanopillars. MRS Advances, 2019, 4, 133-138.	0.5	24
40	Improved manufacture of hybrid membranes with bionanopore adapters capable of self-luting. Bioinspired, Biomimetic and Nanobiomaterials, 2019, 8, 47-71.	0.7	2
41	Deformation behavior and energy absorption capability of polymer and ceramic-polymer composite microlattices under cyclic loading. Journal of Materials Research, 2018, 33, 274-289.	1.2	32
42	Organic fouling control through magnetic ion exchangeâ€nanofiltration (MIEXâ€NF) in water treatment. Journal of Membrane Science, 2018, 549, 474-485.	4.1	47
43	Micromechanics-based investigation of the elastic properties of polymer-modified cementitious materials using nanoindentation and semi-analytical modeling. Cement and Concrete Composites, 2018, 88, 100-114.	4.6	39
44	Evaluating sputter deposited metal coatings on 3D printed polymer micro-truss structures. Materials and Design, 2018, 140, 442-450.	3.3	34
45	Contribution of Lattice Distortion to Solid Solution Strengthening in a Series of Refractory High Entropy Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 772-781.	1.1	91
46	Investigation of microstructure defects in EUROFER97 under He+/Fe3+ dual ion beam irradiation. Nuclear Materials and Energy, 2018, 15, 148-153.	0.6	10
47	Activation energy for plastic flow in nanocrystalline CoCrFeMnNi high-entropy alloy: A high temperature nanoindentation study. Scripta Materialia, 2018, 156, 129-133.	2.6	44
48	Structure, morphology and selected mechanical properties of magnetron sputtered (Mo, Ta, Nb) thin films on NiTi shape memory alloys. Surface and Coatings Technology, 2018, 347, 379-389.	2.2	31
49	Numerical study of slip system activity and crystal lattice rotation under wedge nanoindents in tungsten single crystals. AIP Conference Proceedings, 2018, , .	0.3	1
50	Micromechanics-Based Prediction of the Elastic Properties of Polymer-Modified Cementitious Materials. , 2018, , 264-272.		0
51	Indentation-induced solid-state dewetting of thin Au(Fe) films. Applied Surface Science, 2017, 411, 466-475.	3.1	2
52	The boundaries of soft magnetic composites reveal their complexity in compression and bending tests at the micro-scale. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 684, 270-274.	2.6	2
53	Quantitative in-situ TEM nanotensile testing of single crystal Ni facilitated by a new sample preparation approach. Micron, 2017, 94, 66-73.	1.1	19
54	Nanolattices: An Emerging Class of Mechanical Metamaterials. Advanced Materials, 2017, 29, 1701850.	11.1	356

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55	Thermally activated dislocation plasticity in body-centered cubic chromium studied by high-temperature nanoindentation. Acta Materialia, 2017, 140, 107-115.	3.8	38
56	Detecting co-deformation behavior of Cuâ€“Au nanolayered composites. Materials Research Letters, 2017, 5, 20-28.	4.1	14
57	Micromechanical study on the deformation behavior of directionally solidified NiAlâ€“Cr eutectic composites. Journal of Materials Research, 2017, 32, 2127-2134.	1.2	7
58	Cu-Zr nanoglasses: Atomic structure, thermal stability and indentation properties. Acta Materialia, 2017, 136, 181-189.	3.8	78
59	Bio-inspired micro-to-nanoporous polymers with tunable stiffness. Beilstein Journal of Nanotechnology, 2017, 8, 906-914.	1.5	7
60	Comparison of three approaches to determine the projected area in contact from finite element Berkovich nanoindentation simulations in tungsten. IOP Conference Series: Materials Science and Engineering, 2017, 257, 012013.	0.3	4
61	Preparing Soft Magnetic Composites for Structural and Micromechanical Investigations. Praktische Metallographie/Practical Metallography, 2017, 54, 366-387.	0.1	1
62	Annealing-induced recovery of indents in thin Au(Fe) bilayer films. Beilstein Journal of Nanotechnology, 2016, 7, 2088-2099.	1.5	4
63	Hydration of magnesia cubes: a helium ion microscopy study. Beilstein Journal of Nanotechnology, 2016, 7, 302-309.	1.5	12
64	Optimizing the mechanical properties of polymer resists for strong and light-weight micro-truss structures. Extreme Mechanics Letters, 2016, 8, 283-291.	2.0	14
65	Fracture toughness characterization of single-crystalline tungsten using notched micro-cantilever specimens. International Journal of Plasticity, 2016, 81, 1-17.	4.1	44
66	Notch insensitive strength and ductility in gold nanowires. Acta Materialia, 2016, 108, 317-324.	3.8	9
67	Structure-property-glass transition relationships in non-isocyanate polyurethanes investigated by dynamic nanoindentation. Materials Research Express, 2016, 3, 075019.	0.8	7
68	The Impact of Size and Loading Direction on the Strength of Architected Lattice Materials. Advanced Engineering Materials, 2016, 18, 1537-1543.	1.6	30
69	Approaching theoretical strength in glassy carbonÂnanolattices. Nature Materials, 2016, 15, 438-443.	13.3	488
70	Dependence of tribofilm characteristics on the running-in behavior of aluminumâ€“silicon alloys. Journal of Materials Science, 2015, 50, 5524-5532.	1.7	12
71	Microstructural vortex formation during cyclic sliding of Cu/Au multilayers. Scripta Materialia, 2015, 107, 67-70.	2.6	37
72	High temperature nanoindentation: The state of the art and future challenges. Current Opinion in Solid State and Materials Science, 2015, 19, 354-366.	5.6	161

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73	Microstructure and mechanical behavior of a shape memory Niâ€“Ti bi-layer thin film. Thin Solid Films, 2015, 583, 245-254.	0.8	10
74	Push-to-pull tensile testing of ultra-strong nanoscale ceramicâ€“polymer composites made by additive manufacturing. Extreme Mechanics Letters, 2015, 3, 105-112.	2.0	69
75	High-strength cellular ceramic composites with 3D microarchitecture. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 2453-2458.	3.3	470
76	Orientation Dependence of the Fracture Behavior of Single-crystal Tungsten. , 2014, 3, 479-484.		8
77	Quantitative damage and detwinning analysis of nanotwinned copper foil under cyclic loading. Acta Materialia, 2014, 81, 184-193.	3.8	29
78	High-cycle fatigue behavior of Znâ€“22% Al alloy processed by high-pressure torsion. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 618, 37-40.	2.6	9
79	Mechanical assessment of ultrafine-grained nickel by microcompression experiment and finite element simulation. Journal of Materials Research, 2012, 27, 266-277.	1.2	28
80	Measurement of Youngâ€™s modulus of anisotropic materials using microcompression testing. Journal of Materials Research, 2012, 27, 2752-2759.	1.2	19
81	Structural Development and Morphology of the Attachment System of <i>Parthenocissus tricuspidata</i>. International Journal of Plant Sciences, 2011, 172, 1120-1129.	0.6	36
82	Quantifying the attachment strength of climbing plants: A new approach. Acta Biomaterialia, 2010, 6, 1497-1504.	4.1	53
83	The attachment strategy of English ivy: a complex mechanism acting on several hierarchical levels. Journal of the Royal Society Interface, 2010, 7, 1383-1389.	1.5	78
84	Validity of the reduced modulus concept to describe indentation loading response for elastoplastic materials with sharp indenters. Journal of Materials Research, 2009, 24, 998-1006.	1.2	7
85	A combined microtensile testing and nanoindentation study of the mechanical behavior of nanocrystalline LIGA Niâ€“Fe. International Journal of Materials Research, 2009, 100, 68-75.	0.1	16
86	On the effect of Ag content on the deformation behavior of ultrafine-grained Pdâ€“Ag alloys. Scripta Materialia, 2009, 61, 64-67.	2.6	19
87	Mechanics of indentation of plastically graded materialsâ€"II: Experiments on nanocrystalline alloys with grain size gradients. Journal of the Mechanics and Physics of Solids, 2008, 56, 172-183.	2.3	69
88	The attachment of English ivy (Hedera helix L.): Biomechanical aspects. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2008, 150, S89.	0.8	1
89	Mechanical spectroscopy of nanocrystalline nickel near room temperature. Scripta Materialia, 2008, 59, 467-470.	2.6	11
90	Fatigue and thermal fatigue damage analysis of thin metal films. Microelectronics Reliability, 2007, 47, 2007-2013.	0.9	58

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91	Size Effects on Deformation and Fracture of Nanostructured Metals. Nanostructure Science and Technology, 2006, , 27-77.	0.1	1
92	Length-scale-controlled fatigue mechanisms in thin copper films. Acta Materialia, 2006, 54, 3127-3139.	3.8	172
93	Defect structure in micropillars using x-ray microdiffraction. Applied Physics Letters, 2006, 89, 151905.	1.5	74
94	Nano-sized twins induce high rate sensitivity of flow stress in pure copper. Acta Materialia, 2005, 53, 2169-2179.	3.8	613
95	Microscopic Investigation of Strain Localization and Fatigue Damage in Thin Cu Films. Materials Science Forum, 2005, 475-479, 3647-3650.	0.3	2
96	Damage Behavior of 200-nm Thin Copper Films Under Cyclic Loading. Journal of Materials Research, 2005, 20, 201-207.	1.2	80
97	Analyzing the mechanical behavior of thin films using nanoindentation, cantilever microbeam deflection, and finite element modeling. Journal of Materials Research, 2004, 19, 315-324.	1.2	25
98	Size effects in the fatigue behavior of thin Ag films. Acta Materialia, 2003, 51, 195-206.	3.8	163
99	Some critical experiments on the strain-rate sensitivity of nanocrystalline nickel. Acta Materialia, 2003, 51, 5159-5172.	3.8	527
100	Effect of film thickness and grain size on fatigue-induced dislocation structures in Cu thin films. Philosophical Magazine Letters, 2003, 83, 477-483.	0.5	73
101	Cyclic deformation of polycrystalline Cu films. Philosophical Magazine, 2003, 83, 693-710.	0.7	129
102	Fatigue behavior of polycrystalline thin copper films. International Journal of Materials Research, 2002, 93, 392-400.	0.8	74
103	Interconnect failure due to cyclic loading. AIP Conference Proceedings, 2002, , .	0.3	14
104	Fatigue in thin films: lifetime and damage formation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 319-321, 919-923.	2.6	163
105	High cycle fatigue of thin silver films investigated by dynamic microbeam deflection. Scripta Materialia, 1999, 41, 823-829.	2.6	94
106	Fatigue of Thin Silver Films Investigated by Dynamic Microbeam Deflection. Materials Research Society Symposia Proceedings, 1999, 594, 201.	0.1	2
107	Measurement of Thin Film Mechanical Properties by Microbeam Bending. Materials Research Society Symposia Proceedings, 1999, 563, 231.	0.1	11
108	Measurement of Mechanical Properties in Small Dimensions by Microbeam Deflection. Materials Research Society Symposia Proceedings, 1998, 518, 39.	0.1	15

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109	Fatigue and Thermal Fatigue Damage Analysis of Thin Metal Films. , 0, , .		4