

Gerhard Dehm

List of Publications by Year in descending order

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papers

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28274

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times ranked

7481
citing authors

#	ARTICLE	IF	CITATIONS
1	A further step towards an understanding of size-dependent crystal plasticity: In situ tension experiments of miniaturized single-crystal copper samples. <i>Acta Materialia</i> , 2008, 56, 580-592.	7.9	441
2	In situ observation of dislocation nucleation and escape in a submicrometre aluminium single crystal. <i>Nature Materials</i> , 2009, 8, 95-100.	27.5	400
3	FIB damage of Cu and possible consequences for miniaturized mechanical tests. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2007, 459, 262-272.	5.6	386
4	Observation of Giant Diffusivity Along Dislocation Cores. <i>Science</i> , 2008, 319, 1646-1649.	12.6	374
5	Overview on micro- and nanomechanical testing: New insights in interface plasticity and fracture at small length scales. <i>Acta Materialia</i> , 2018, 142, 248-282.	7.9	268
6	A comparative micro-cantilever study of the mechanical behavior of silicon based passivation films. <i>Thin Solid Films</i> , 2009, 518, 247-256.	1.8	209
7	Trends in the Development of New Mg Alloys. <i>Annual Review of Materials Research</i> , 2008, 38, 505-533.	9.3	199
8	Micro-compression testing: A critical discussion of experimental constraints. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2009, 505, 79-87.	5.6	192
9	Determination of Mechanical Properties of Copper at the Micron Scale. <i>Advanced Engineering Materials</i> , 2006, 8, 1119-1125.	3.5	191
10	Importance and Challenges of Electrochemical <i>in Situ</i> Liquid Cell Electron Microscopy for Energy Conversion Research. <i>Accounts of Chemical Research</i> , 2016, 49, 2015-2022.	15.6	185
11	Bidirectional Transformation Enables Hierarchical Nanolaminate Dual-Phase High-Entropy Alloys. <i>Advanced Materials</i> , 2018, 30, e1804727.	21.0	167
12	Miniaturized single-crystalline fcc metals deformed in tension: New insights in size-dependent plasticity. <i>Progress in Materials Science</i> , 2009, 54, 664-688.	32.8	143
13	Observations of grain-boundary phase transformations in an elemental metal. <i>Nature</i> , 2020, 579, 375-378.	27.8	136
14	Cyclic deformation of polycrystalline Cu films. <i>Philosophical Magazine</i> , 2003, 83, 693-710.	1.6	129
15	Can microscale fracture tests provide reliable fracture toughness values? A case study in silicon. <i>Journal of Materials Research</i> , 2015, 30, 686-698.	2.6	129
16	Superlattice effect for enhanced fracture toughness of hard coatings. <i>Scripta Materialia</i> , 2016, 124, 67-70.	5.2	128
17	Adhesion energies of Cr thin films on polyimide determined from buckling: Experiment and model. <i>Acta Materialia</i> , 2010, 58, 5520-5531.	7.9	121
18	Differences in deformation behavior of bicrystalline Cu micropillars containing a twin boundary or a large-angle grain boundary. <i>Acta Materialia</i> , 2014, 73, 240-250.	7.9	120

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19	Interface controlled plasticity in metals: dispersion hardening and thin film deformation. Progress in Materials Science, 2001, 46, 283-307.	32.8	118
20	Grain refinement in $\hat{1}^3$ -TiAl-based alloys by solid state phase transformations. Intermetallics, 2006, 14, 1380-1385.	3.9	118
21	In situ TEM straining of single crystal Au films on polyimide: Change of deformation mechanisms at the nanoscale. Acta Materialia, 2007, 55, 5558-5571.	7.9	116
22	Growth and structure of copper thin films deposited on (0001) sapphire by molecular beam epitaxy. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 1995, 71, 1111-1124.	0.6	106
23	Unveiling the Re effect in Ni-based single crystal superalloys. Nature Communications, 2020, 11, 389.	12.8	101
24	Parallel glide: unexpected dislocation motion parallel to the substrate in ultrathin copper films. Acta Materialia, 2003, 51, 4471-4485.	7.9	99
25	TEM investigations of the structural evolution in a pearlitic steel deformed by high-pressure torsion. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2006, 37, 1963-1968.	2.2	96
26	Small-scale plasticity in thin Cu and Al films. Microelectronic Engineering, 2003, 70, 412-424.	2.4	93
27	Work hardening in micropillar compression: In situ experiments and modeling. Acta Materialia, 2011, 59, 3825-3840.	7.9	86
28	Creep behaviour and related high temperature microstructural stability of Ti $\hat{4}6$ Al $\hat{9}$ Nb sheet material. Intermetallics, 2005, 13, 515-524.	3.9	81
29	Growth and microstructural stability of epitaxial Al films on (0001) $\hat{1}^{\pm}$ -Al ₂ O ₃ substrates. Acta Materialia, 2002, 50, 5021-5032.	7.9	79
30	Fracture and Delamination of Chromium Thin Films on Polymer Substrates. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2010, 41, 870-875.	2.2	79
31	Crystal rotation in Cu single crystal micropillars: <i>In situ</i> Laue and electron backscatter diffraction. Applied Physics Letters, 2008, 92, .	3.3	77
32	The influence of a brittle Cr interlayer on the deformation behavior of thin Cu films on flexible substrates: Experiment and model. Acta Materialia, 2015, 89, 278-289.	7.9	76
33	Gold $\hat{4}$ Palladium Bimetallic Catalyst Stability: Consequences for Hydrogen Peroxide Selectivity. ACS Catalysis, 2017, 7, 5699-5705.	11.2	76
34	Dislocation-induced breakthrough of strength and ductility trade-off in a non-equiatomc high-entropy alloy. Acta Materialia, 2020, 185, 45-54.	7.9	76
35	On the importance of sample compliance in uniaxial microtesting. Scripta Materialia, 2009, 60, 148-151.	5.2	75
36	Quasi-crystalline grain-boundary phase in the magnesium die-cast alloy ZA85. Scripta Materialia, 2001, 45, 517-524.	5.2	74

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37	Electron-energy-loss spectroscopy studies of Cu- \pm -Al ₂ O ₃ interfaces grown by molecular beam epitaxy. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1998, 78, 439-465.	0.6	72
38	In situ TEM study of microplasticity and Bauschinger effect in nanocrystalline metals. Acta Materialia, 2010, 58, 4772-4782.	7.9	72
39	Interface fracture properties of thin films studied by using the micro-cantilever deflection technique. Surface and Coatings Technology, 2009, 204, 878-881.	4.8	71
40	Iron Aluminides. Annual Review of Materials Research, 2019, 49, 297-326.	9.3	71
41	Mechanical Size-Effects in Miniaturized and Bulk Materials. Advanced Engineering Materials, 2006, 8, 1033-1045.	3.5	70
42	Reactive wear protection through strong and deformable oxide nanocomposite surfaces. Nature Communications, 2021, 12, 5518.	12.8	70
43	Texture transition in Cu thin films: Electron backscatter diffraction vs. X-ray diffraction. Acta Materialia, 2006, 54, 3863-3870.	7.9	68
44	Crystal- \leftarrow Glass High- \leftarrow Entropy Nanocomposites with Near Theoretical Compressive Strength and Large Deformability. Advanced Materials, 2020, 32, e2002619.	21.0	66
45	Nanometer-scaled lamellar microstructures in Ti- \leftarrow 45Al- \leftarrow 7.5Nb- \leftarrow (0; 0.5)C alloys and their influence on hardness. Intermetallics, 2008, 16, 868-875.	3.9	65
46	Strain-Induced Asymmetric Line Segregation at Faceted Si Grain Boundaries. Physical Review Letters, 2018, 121, 015702.	7.8	65
47	Understanding Grain Boundary Electrical Resistivity in Cu: The Effect of Boundary Structure. ACS Nano, 2021, 15, 16607-16615.	14.6	65
48	In situ transmission electron microscopy study of dislocations in a polycrystalline Cu thin film constrained by a substrate. Applied Physics Letters, 2000, 77, 1126-1128.	3.3	63
49	Yield stress influenced by the ratio of wire diameter to grain size - a competition between the effects of specimen microstructure and dimension in micro-sized polycrystalline copper wires. Philosophical Magazine, 2012, 92, 3243-3256.	1.6	63
50	Growth and structure of internal Cu/Al ₂ O ₃ and Cu/Ti/Al ₂ O ₃ interfaces 11 Paper presented at Sympos. Synergistic Synthesis of Inorganic Materials, March 1996, Schlo- \leftarrow Ringberg, Germany.. Acta Materialia, 1998, 46, 759-772.	7.9	61
51	Deformation- \leftarrow Induced Martensite: A New Paradigm for Exceptional Steels. Advanced Materials, 2016, 28, 7753-7757.	21.0	61
52	Microstructural and mechanical characterization of an equiatomic YGdTbDyHo high entropy alloy with hexagonal close-packed structure. Acta Materialia, 2018, 156, 86-96.	7.9	58
53	Overview on established and novel FIB based miniaturized mechanical testing using in-situ SEM. International Journal of Materials Research, 2009, 100, 1074-1087.	0.3	57
54	Kinetics and driving forces of abnormal grain growth in thin Cu films. Acta Materialia, 2012, 60, 2397-2406.	7.9	57

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55	Size effect in bi-crystalline micropillars with a penetrable high angle grain boundary. <i>Acta Materialia</i> , 2017, 129, 312-320.	7.9	57
56	Interfacial nanophases stabilize nanotwins in high-entropy alloys. <i>Acta Materialia</i> , 2020, 185, 218-232.	7.9	57
57	Electron Energy-Loss Near-Edge Structure of Metal-Alumina Interfaces. <i>Microscopy Microanalysis Microstructures</i> , 1995, 6, 19-31.	0.4	57
58	The influence of chromium addition on the toughness of β -Ni \pm -Al ₂ O ₃ interfaces. <i>Acta Materialia</i> , 1997, 45, 3503-3513.	7.9	56
59	In situ transmission electron microscopy study of thermal-stress-induced dislocations in a thin Cu film constrained by a Si substrate. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2001, 309-310, 468-472.	5.6	56
60	On the influence of microcantilever pre-crack geometries on the apparent fracture toughness of brittle materials. <i>Acta Materialia</i> , 2017, 136, 281-287.	7.9	53
61	Formation of eta carbide in ferrous martensite by room temperature aging. <i>Acta Materialia</i> , 2018, 158, 297-312.	7.9	52
62	Impact of instrumental constraints and imperfections on the dislocation structure in micron-sized Cu compression pillars. <i>Acta Materialia</i> , 2011, 59, 5618-5626.	7.9	51
63	Dislocation-twin boundary interaction in small scale Cu bi-crystals loaded in different crystallographic directions. <i>Acta Materialia</i> , 2017, 129, 91-97.	7.9	51
64	On the segregation of Re at dislocations in the β' phase of Ni-based single crystal superalloys. <i>Acta Materialia</i> , 2018, 4, 109-114.	2.7	51
65	Designed fully lamellar microstructures in a β -TiAl based alloy: adjustment and microstructural changes upon long-term isothermal exposure at 700 and 800°C. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2002, 329-331, 124-129.	5.6	50
66	Stress, Sheet Resistance, and Microstructure Evolution of Electroplated Cu Films During Self-Annealing. <i>IEEE Transactions on Device and Materials Reliability</i> , 2010, 10, 47-54.	2.0	50
67	Influence of impurity elements on the nucleation and growth of Si in high purity melt-spun Al-Si-based alloys. <i>Philosophical Magazine</i> , 2012, 92, 3789-3805.	1.6	50
68	Nanostructure and mechanical behavior of metastable Cu-Cr thin films grown by molecular beam epitaxy. <i>Acta Materialia</i> , 2015, 83, 318-332.	7.9	50
69	Synthesis of analytical and high-resolution transmission electron microscopy to determine the interface structure of Cu/Al ₂ O ₃ . <i>Ultramicroscopy</i> , 1997, 67, 207-217.	1.9	49
70	Microstructure evolution and mechanical properties of an intermetallic Ti-43.5Al-4Nb-1Mo-0.1B alloy after ageing below the eutectoid temperature. <i>International Journal of Materials Research</i> , 2011, 102, 703-708.	0.3	49
71	Microscale Fracture Behavior of Single Crystal Silicon Beams at Elevated Temperatures. <i>Nano Letters</i> , 2016, 16, 7597-7603.	9.1	49
72	Advanced nanomechanics in the TEM: effects of thermal annealing on FIB prepared Cu samples. <i>Philosophical Magazine</i> , 2012, 92, 3269-3289.	1.6	48

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73	Dislocation-induced crystal rotations in micro-compressed single crystal copper columns. <i>Journal of Materials Science</i> , 2008, 43, 2503-2506.	3.7	47
74	Kinetics and crystallization path of a Fe-based metallic glass alloy. <i>Acta Materialia</i> , 2017, 127, 341-350.	7.9	47
75	Effect of heat-treatments and hot-isostatic pressing on phase transformation and microstructure in a β /B2 containing β -TiAl based alloy. <i>Scripta Materialia</i> , 2000, 42, 1065-1070.	5.2	46
76	Mechanical size effects in a single crystalline equiatomic FeCrCoMnNi high entropy alloy. <i>Scripta Materialia</i> , 2017, 129, 52-55.	5.2	46
77	Microstructure and tribological properties of Ni-based claddings on Cu substrates. <i>Wear</i> , 1999, 225-229, 18-26.	3.1	45
78	Microstructural stability and creep behavior of a lamellar β -TiAl based alloy with extremely fine lamellar spacing. <i>Intermetallics</i> , 2002, 10, 459-466.	3.9	45
79	Internal and external stresses: In situ TEM compression of Cu bicrystals containing a twin boundary. <i>Scripta Materialia</i> , 2015, 100, 94-97.	5.2	45
80	Retrieval of crystal defect structures from HREM images by simulated evolution II. Experimental image evaluation. <i>Ultramicroscopy</i> , 1996, 65, 217-228.	1.9	43
81	Dislocation storage in single slip-oriented Cu micro-tensile samples: new insights via X-ray microdiffraction. <i>Philosophical Magazine</i> , 2011, 91, 1256-1264.	1.6	43
82	An elevated temperature study of a Ti adhesion layer on polyimide. <i>Thin Solid Films</i> , 2013, 531, 354-361.	1.8	43
83	Laser cladding of Co-based hardfacing on Cu substrate. <i>Journal of Materials Science</i> , 2002, 37, 5345-5353.	3.7	41
84	Precipitation processes in a Mg-Zn-Sn alloy studied by TEM and SAXS. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008, 494, 158-165.	5.6	41
85	Dislocation interaction and twinning-induced plasticity in face-centered cubic Fe-Mn-C micro-pillars. <i>Acta Materialia</i> , 2017, 132, 162-173.	7.9	41
86	Dislocation slip transmission through a coherent $\{111\}$ copper twin boundary: Strain rate sensitivity, activation volume and strength distribution function. <i>Acta Materialia</i> , 2018, 161, 412-419.	7.9	41
87	Microstructural size effects on the hardness of nanocrystalline TiN/amorphous-SiNx coatings prepared by magnetron sputtering. <i>Thin Solid Films</i> , 2005, 473, 114-122.	1.8	40
88	Segregation-Induced Nanofaceting Transition at an Asymmetric Tilt Grain Boundary in Copper. <i>Physical Review Letters</i> , 2018, 121, 255502.	7.8	40
89	Size-independent stresses in Al thin films thermally strained down to $\sim 100^\circ\text{C}$. <i>Acta Materialia</i> , 2007, 55, 1941-1946.	7.9	38
90	Deformation mechanisms in micron-sized PST TiAl compression samples: Experiment and model. <i>Acta Materialia</i> , 2011, 59, 3410-3421.	7.9	38

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91	Expected and unexpected plastic behavior at the micron scale: An in situ $\hat{1}/4$ Laue tensile study. Acta Materialia, 2012, 60, 1252-1258.	7.9	38
92	Fracture toughness of Mo ₂ BC thin films: Intrinsic toughness versus system toughening. Materials and Design, 2018, 154, 20-27.	7.0	38
93	Temperature dependent transition of intragranular plastic to intergranular brittle failure in electrodeposited Cu micro-tensile samples. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 618, 398-405.	5.6	37
94	Oxygen-mediated deformation and grain refinement in Cu-Fe nanocrystalline alloys. Acta Materialia, 2019, 166, 281-293.	7.9	37
95	A quantitative study of the hardness of a superhard nanocrystalline titanium nitride/silicon nitride coating. Scripta Materialia, 2005, 52, 1269-1274.	5.2	36
96	Microcompression and cyclic deformation behaviors of coaxial copper bicrystals with a single twin boundary. Scripta Materialia, 2013, 69, 199-202.	5.2	36
97	Importance of dislocation pile-ups on the mechanical properties and the Bauschinger effect in microcantilevers. Journal of Materials Research, 2015, 30, 791-797.	2.6	36
98	Stress intensity factor dependence on anisotropy and geometry during micro-fracture experiments. Scripta Materialia, 2017, 127, 76-78.	5.2	36
99	Could face-centered cubic titanium in cold-rolled commercially-pure titanium only be a Ti-hydride?. Scripta Materialia, 2020, 178, 39-43.	5.2	36
100	Channel cracking of $\hat{1}^2$ -NiAl thin films on Si substrates. Acta Materialia, 2004, 52, 2325-2336.	7.9	35
101	In Situ TEM Microcompression of Single and Bicrystalline Samples: Insights and Limitations. Jom, 2015, 67, 1704-1712.	1.9	35
102	Dislocation plasticity in FeCoCrMnNi high-entropy alloy: quantitative insights from <i>in situ</i> transmission electron microscopy deformation. Materials Research Letters, 2020, 8, 216-224.	8.7	35
103	On the origin of acoustic emission during room temperature compressive deformation of a $\hat{1}^3$ -TiAl based alloy. Intermetallics, 2000, 8, 823-830.	3.9	34
104	Experimental studies on epitaxially grown TiN and VN films. Thin Solid Films, 2007, 516, 369-373.	1.8	34
105	Cyclic bending experiments on free-standing Cu micron lines observed by electron backscatter diffraction. Acta Materialia, 2015, 83, 460-469.	7.9	34
106	Microstructural evolution and solid state dewetting of epitaxial Al thin films on sapphire ($\hat{1}\pm$ -Al ₂ O ₃). Acta Materialia, 2017, 133, 356-366.	7.9	34
107	Symbiotic crystal-glass alloys via dynamic chemical partitioning. Materials Today, 2021, 51, 6-14.	14.2	34
108	In situ TEM observation of dislocation motion in thermally strained Al nanowires. Acta Materialia, 2002, 50, 5033-5047.	7.9	33

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109	Bonding at copper–alumina interfaces established by different surface treatments: a critical review. <i>Journal of Materials Science</i> , 2006, 41, 5161-5168.	3.7	33
110	Visualizing the Behavior of Dislocations—Seeing is Believing. <i>MRS Bulletin</i> , 2008, 33, 122-131.	3.5	33
111	Tensile behaviour of micro-sized copper wires studied using a novel fibre tensile module. <i>International Journal of Materials Research</i> , 2008, 99, 716-724.	0.3	32
112	Damage evolution during cyclic tension–tension loading of micron-sized Cu lines. <i>Acta Materialia</i> , 2014, 67, 297-307.	7.9	31
113	Advances in in situ nanomechanical testing. <i>MRS Bulletin</i> , 2019, 44, 438-442.	3.5	31
114	Dislocation dynamics in sub-micron confinement: recent progress in Cu thin film plasticity. <i>International Journal of Materials Research</i> , 2002, 93, 383-391.	0.8	31
115	Investigation of the fatigue behavior of Al thin films with different microstructure. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2010, 527, 7757-7763.	5.6	30
116	On the nature of twin boundary-associated strengthening in Fe-Mn-C steel. <i>Scripta Materialia</i> , 2018, 156, 27-31.	5.2	30
117	Experimental conditions affecting the measured fracture toughness at the microscale: Notch geometry and crack extension measurement. <i>Materials and Design</i> , 2020, 191, 108582.	7.0	30
118	Effects of thickness on the characteristic length scale of dislocation plasticity in Ag thin films. <i>Acta Materialia</i> , 2001, 49, 3597-3607.	7.9	29
119	Are Mo ₂ BC nanocrystalline coatings damage resistant? Insights from comparative tension experiments. <i>Surface and Coatings Technology</i> , 2016, 289, 213-218.	4.8	29
120	Atomic scale configuration of planar defects in the Nb-rich C14 Laves phase NbFe ₂ . <i>Acta Materialia</i> , 2020, 183, 362-376.	7.9	29
121	Crystal structure and composition dependence of mechanical properties of single-crystalline NbCo ₂ Laves phase. <i>Acta Materialia</i> , 2020, 184, 151-163.	7.9	29
122	Massive interstitial solid solution alloys achieve near-theoretical strength. <i>Nature Communications</i> , 2022, 13, 1102.	12.8	29
123	Equilibrium Amorphous Silicon–Calcium–Oxygen Films at Interfaces in Copper–Alumina Composites Prepared by Melt Infiltration. <i>Journal of the American Ceramic Society</i> , 2001, 84, 623-630.	3.8	28
124	Reducing cohesion of metal powders for additive manufacturing by nanoparticle dry-coating. <i>Powder Technology</i> , 2021, 379, 585-595.	4.2	28
125	Nanoindentation pop-in in oxides at room temperature: Dislocation activation or crack formation?. <i>Journal of the American Ceramic Society</i> , 2021, 104, 4728-4741.	3.8	28
126	In-situ TEM straining experiments of Al films on polyimide using a novel FIB design for specimen preparation. <i>Journal of Materials Science</i> , 2006, 41, 4484-4489.	3.7	27

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127	Strain compensation by twinning in Au thin films: Experiment and model. <i>Acta Materialia</i> , 2007, 55, 6659-6665.	7.9	27
128	Stress-controlled fatigue behaviour of micro-sized polycrystalline copper wires. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2009, 515, 71-78.	5.6	27
129	The effect of film thickness variations in periodic cracking: Analysis and experiments. <i>Surface and Coatings Technology</i> , 2011, 206, 1830-1836.	4.8	27
130	In Situ μ Laue: Instrumental Setup for the Deformation of Micron Sized Samples. <i>Advanced Engineering Materials</i> , 2011, 13, 837-844.	3.5	27
131	Investigation of reversible plasticity in a micron-sized, single crystalline copper bending beam by X-ray μ Laue diffraction. <i>Philosophical Magazine</i> , 2012, 92, 3231-3242.	1.6	27
132	Influence of inclined twin boundaries on the deformation behavior of Cu micropillars. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015, 642, 65-70.	5.6	27
133	Comparing small scale plasticity of copper-chromium nanolayered and alloyed thin films at elevated temperatures. <i>Acta Materialia</i> , 2015, 93, 175-186.	7.9	27
134	Hydrogen embrittlement of tungsten induced by deuterium plasma: Insights from nanoindentation tests. <i>Journal of Materials Research</i> , 2018, 33, 3530-3536.	2.6	27
135	Measurement of coherency states of metal-ceramic interfaces by HREM image processing. <i>Physica Status Solidi A</i> , 1995, 150, 77-87.	1.7	26
136	Dynamic observation of Al thin films plastically strained in a TEM. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2001, 309-310, 463-467.	5.6	26
137	Influence of external and internal length scale on the flow stress of copper. <i>International Journal of Materials Research</i> , 2007, 98, 1047-1053.	0.3	26
138	Structural characterization of a Cu/MgO(001) interface using CS-corrected HRTEM. <i>Thin Solid Films</i> , 2010, 519, 1662-1667.	1.8	26
139	Study of nanometer-scaled lamellar microstructure in a Ti-45Al-7.5Nb alloy - Experiments and modeling. <i>Intermetallics</i> , 2010, 18, 509-517.	3.9	26
140	Formation of dislocation networks in a coherent Cu $\{111\}$ twin boundary. <i>Scripta Materialia</i> , 2015, 102, 71-74.	5.2	26
141	Electronic hybridisation implications for the damage-tolerance of thin film metallic glasses. <i>Scientific Reports</i> , 2016, 6, 36556.	3.3	26
142	Coccospheres confer mechanical protection: New evidence for an old hypothesis. <i>Acta Biomaterialia</i> , 2016, 42, 258-264.	8.3	26
143	Fracture toughness of intermetallic Cu ₆ Sn ₅ in lead-free solder microelectronics. <i>Scripta Materialia</i> , 2016, 123, 38-41.	5.2	26
144	Aggregation control of Ru and Ir nanoparticles by tunable aryl alkyl imidazolium ionic liquids. <i>Nanoscale</i> , 2019, 11, 4073-4082.	5.6	26

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145	Effect of Oxygen on High-temperature Phase Equilibria in Ternary Ti-Al-Nb Alloys. Zeitschrift Fur Anorganische Und Allgemeine Chemie, 2020, 646, 1151-1156.	1.2	26
146	Novel temperature dependent tensile test of freestanding copper thin film structures. Review of Scientific Instruments, 2012, 83, 064702.	1.3	25
147	Interplay of Chemistry and Faceting at Grain Boundaries in a Model Al Alloy. Physical Review Letters, 2020, 124, 106102.	7.8	25
148	Nanotribology in austenite: Plastic plowing and crack formation. Wear, 2015, 338-339, 436-440.	3.1	24
149	Influence of composition and crystal structure on the fracture toughness of NbCo ₂ Laves phase studied by micro-cantilever bending tests. Materials and Design, 2018, 145, 116-121.	7.0	24
150	Micro fracture investigations of white etching layers. Materials and Design, 2019, 180, 107892.	7.0	24
151	Synthesis, microstructure, and hardness of rapidly solidified Cu-Cr alloys. Journal of Alloys and Compounds, 2019, 794, 203-209.	5.5	24
152	Dopant-segregation to grain boundaries controls electrical conductivity of n-type NbCo(Pt)Sn half-Heusler alloy mediating thermoelectric performance. Acta Materialia, 2021, 217, 117147.	7.9	24
153	Aluminum depletion induced by co-segregation of carbon and boron in a bcc-iron grain boundary. Nature Communications, 2021, 12, 6008.	12.8	24
154	A microindentation method for estimating interfacial shear strength and its use in studying the influence of titanium transition layers on the interface strength of epitaxial copper films on sapphire. Acta Materialia, 1997, 45, 489-499.	7.9	23
155	Transition from shear to stress-assisted diffusion of copper-chromium nanolayered thin films at elevated temperatures. Acta Materialia, 2015, 100, 73-80.	7.9	23
156	Strain rate dependence of the slip transfer through a penetrable high angle grain boundary in copper. Scripta Materialia, 2017, 138, 88-91.	5.2	23
157	Nano-laminated thin film metallic glass design for outstanding mechanical properties. Scripta Materialia, 2018, 155, 73-77.	5.2	23
158	Size dependent strength, slip transfer and slip compatibility in nanotwinned silver. Acta Materialia, 2020, 184, 120-131.	7.9	23
159	On the role of twinning during room temperature deformation of β -TiAl based alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2002, 329-331, 177-183.	5.6	22
160	Micron-sized fracture experiments on amorphous SiO _x films and SiO _x /SiN _x multi-layers. Thin Solid Films, 2010, 518, 5796-5801.	1.8	22
161	Insights into the atomic and electronic structure triggered by ordered nitrogen vacancies in CrN. Physical Review B, 2013, 87, .	3.2	22
162	The peculiarity of the metal-ceramic interface. Scientific Reports, 2015, 5, 11460.	3.3	22

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