Mathias GÃ¶ken

List of Publications by Year
in descending order

289 papers	12,446 citations	22153 59 h-index	34986 98 g-index
302 all docs	302 docs citations	302 times ranked	7792 citing authors

#	Article	IF	Citations
1	Mechanical properties of copper/bronze laminates: Role of interfaces. Acta Materialia, 2016, 116, 43-52.	7.9	507
2	High-performance direct conversion X-ray detectors based on sintered hybrid lead triiodide perovskite wafers. Nature Photonics, 2017, 11, 436-440.	31.4	442
3	Interface affected zone for optimal strength and ductility in heterogeneous laminate. Materials Today, 2018, 21, 713-719.	14.2	357
4	Indentation size effect in metallic materials: Correcting for the size of the plastic zone. Scripta Materialia, 2005, 52, 1093-1097.	5.2	337
5	Indentation size effect in metallic materials: Modeling strength from pop-in to macroscopic hardness using geometrically necessary dislocations. Acta Materialia, 2006, 54, 2547-2555.	7.9	300
6	Nanoindentation strain-rate jump tests for determining the local strain-rate sensitivity in nanocrystalline Ni and ultrafine-grained Al. Journal of Materials Research, 2011, 26, 1421-1430.	2.6	272
7	Strain rate sensitivity of ultrafine-grained aluminium processed by severe plastic deformation. Scripta Materialia, 2005, 53, 189-194.	5.2	268
8	Microstructure and creep strength of different Î³/Î³â€²-strengthened Co-base superalloy variants. Scripta Materialia, 2010, 63, 1197-1200.	5.2	262
9	Imaging and measurement of local mechanical material properties by atomic force acoustic microscopy. Surface and Interface Analysis, 2002, 33, 65-70.	1.8	208
10	Superior creep strength of a nickel-based superalloy produced by selective laser melting. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 674, 299-307.	5.6	170
11	Elemental partitioning and mechanical properties of Ti- and Ta-containing Coâ€"Alâ€"W-base superalloys studied by atom probe tomography and nanoindentation. Acta Materialia, 2014, 78, 78-85.	7.9	168
12	High temperature oxidation of Î³/Î³â€²-strengthened Co-base superalloys. Corrosion Science, 2011, 53, 2027-2034.	6.6	167
13	A review of experimental approaches to fracture toughness evaluation at the micro-scale. Materials and Design, 2019, 173, 107762.	7.0	167
14	Creep properties of different Î³â€²-strengthened Co-base superalloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 550, 333-341.	5.6	166
15	Enhanced Strength and Ductility in Ultrafine-Grained Aluminium Produced by Accumulative Roll Bonding. Advanced Engineering Materials, 2004, 6, 781-784.	3.5	162
16	The effect of Re and Ru on Î³/Î³â€² microstructure, Î³-solid solution strengthening and creep strength in nickel-base superalloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 3435-3444.	5.6	162
17	On the measurement of the nanohardness of the constitutive phases of TRIP-assisted multiphase steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2002, 328, 26-32.	5.6	147
18	Elastic Moduli and Hardness of Cubic Silicon Nitride. Journal of the American Ceramic Society, 2002, 85, 86-90.	3.8	146

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19	Mechanical properties and lattice misfit of Î³/Î³â€² strengthened Co-base superalloys in the Coâ€“Wâ€“Alâ€“Ti quaternary system. Intermetallics, 2014, 55, 28-39.	3.9	141
20	In situ micro-cantilever tests to study fracture properties of NiAl single crystals. Acta Materialia, 2012, 60, 1193-1200.	7.9	137
21	Microstructure development and hardness of a powder metallurgical multi phase Î³-TiAl based alloy. Intermetallics, 2012, 22, 231-240.	3.9	134
22	Diffusion of solutes in fcc Cobalt investigated by diffusion couples and first principles kinetic Monte Carlo. Acta Materialia, 2016, 106, 304-312.	7.9	131
23	An improved long-term nanoindentation creep testing approach for studying the local deformation processes in nanocrystalline metals at room and elevated temperatures. Journal of Materials Research, 2013, 28, 1177-1188.	2.6	130
24	Novel wrought Î³/Î³â€² cobalt base superalloys with high strength and improved oxidation resistance. Scripta Materialia, 2015, 109, 104-107.	5.2	130
25	Microstructural properties of superalloys investigated by nanoindentations in an atomic force microscope. Acta Materialia, 1999, 47, 1043-1052.	7.9	122
26	Hardness and modulus of the lamellar microstructure in PST-TiAl studied by nanoindentations and AFM. Acta Materialia, 2001, 49, 903-911.	7.9	113
27	Mechanical properties of hyaline and repair cartilage studied by nanoindentation. Acta Biomaterialia, 2007, 3, 873-881.	8.3	113
28	Influence of dislocation density on the pop-in behavior and indentation size effect in CaF2 single crystals: Experiments and molecular dynamics simulations. Acta Materialia, 2011, 59, 4264-4273.	7.9	112
29	Hetero-deformation induced (HDI) hardening does not increase linearly with strain gradient. Scripta Materialia, 2020, 174, 19-23.	5.2	111
30	A novel type of Coâ€“Tiâ€“Cr-base <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" overflow="scroll"><mml:mrow><mml:mi>Î³</mml:mi><mml:mo>/</mml:mo><mml:msup><mml:mi>Î³</mml:mi><mml:mo>â€²</mml:m superalloys with low mass density. Acta Materialia, 2017, 135, 244-251.	7.9	101
31	<i>In-situ</i>observation of dislocation dynamics near heterostructured interfaces. Materials Research Letters, 2019, 7, 376-382.	8.7	100
32	Finite element study for nanoindentation measurements on two-phase materials. Journal of Materials Research, 2004, 19, 85-93.	2.6	94
33	Indentation size effect in Niâ€“Fe solid solutions. Acta Materialia, 2007, 55, 6825-6833.	7.9	92
34	On the importance of a connected hard-phase skeleton for the creep resistance of Mg alloys. Acta Materialia, 2012, 60, 2277-2289.	7.9	89
35	Cyclic deformation behavior and fatigue lives of ultrafine-grained Ti-6AL-4V ELI alloy for medical use. International Journal of Fatigue, 2009, 31, 322-331.	5.7	88
36	Accelerated grain refinement during accumulative roll bonding by nanoparticle reinforcement. Scripta Materialia, 2011, 64, 245-248.	5.2	88

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37	Activation parameters for deformation of ultrafine-grained aluminium as determined by indentation strain rate jumps at elevated temperature. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 585, 108-113.	5.6	87
38	Reasons for the enhanced phase stability of Ru-containing nickel-based superalloys. Acta Materialia, 2011, 59, 6563-6573.	7.9	84
39	Plastic deformation mechanisms in a crept L12 hardened Co-base superalloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 571, 13-18.	5.6	84
40	Segregation assisted microtwinning during creep of a polycrystalline L12-hardened Co-base superalloy. Acta Materialia, 2017, 123, 295-304.	7.9	83
41	Localized corrosion of ultrafine-grained Alâ€"Mg model alloys. Electrochimica Acta, 2010, 55, 1966-1970.	5.2	81
42	The effect of tungsten content on the properties of L12-hardened Coâ€"Alâ€"W alloys. Journal of Alloys and Compounds, 2015, 632, 110-115.	5.5	81
43	Fracture toughness of silicon nitride thin films of different thicknesses as measured by bulge tests. Acta Materialia, 2011, 59, 1772-1779.	7.9	80
44	Indentation size effect in spherical and pyramidal indentations. Journal Physics D: Applied Physics, 2008, 41, 074005.	2.8	77
45	Deformation kinetics of nanocrystalline nickel. Acta Materialia, 2007, 55, 5708-5717.	7.9	75
46	Intermediate Co/Ni-base model superalloys â€" Thermophysical properties, creep and oxidation. Scripta Materialia, 2016, 112, 83-86.	5.2	74
47	On the grain boundary strengthening effect of boron in Î³/Î³â€² Cobalt-base superalloys. Acta Materialia, 2018, 145, 247-254.	7.9	73
48	Nanoindentation studies of the mechanical properties of the Î¼ phase in a creep deformed Re containing nickel-based superalloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 634, 202-208.	5.6	72
49	Characterization of phases of aluminized nickel base superalloys. Surface and Coatings Technology, 2003, 167, 83-96.	4.8	71
50	Elemental partitioning, lattice misfit and creep behaviour of Cr containing <i>Î³</i>â€² strengthened Co base superalloys. Materials Science and Technology, 2016, 32, 220-225.	1.6	71
51	A simple method for residual stress measurements in thin films by means of focused ion beam milling and digital image correlation. Surface and Coatings Technology, 2013, 215, 247-252.	4.8	70
52	Stress evolution and cracking of crystalline diamond thin films on ductile titanium substrate: Analysis by micro-Raman spectroscopy and analytical modelling. Acta Materialia, 2011, 59, 5422-5433.	7.9	69
53	Micromechanical characterisation of the influence of rhenium on the mechanical properties in nickel-base superalloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 387-389, 312-316.	5.6	67
54	Microcantilever bending experiments in NiAl â€" Evaluation, size effects, and crack tip plasticity. Journal of Materials Research, 2014, 29, 2129-2140.	2.6	67

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55	Strain-rate sensitivity of ultrafine-grained materials. International Journal of Materials Research, 2005, 96, 566-571.	0.8	65
56	Microstructure-dependent deformation behaviour of bcc-metals â€“ indentation size effect and strain rate sensitivity. Philosophical Magazine, 2015, 95, 1766-1779.	1.6	64
57	Cellâ€based resurfacing of large cartilage defects: Longâ€term evaluation of grafts from autologous transgeneâ€activated periosteal cells in a porcine model of osteoarthritis. Arthritis and Rheumatism, 2008, 58, 475-488.	6.7	63
58	Microstructural evolution during creep of Ca-containing AZ91. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 510-511, 398-402.	5.6	63
59	Size-dependent fracture toughness of tungsten. Acta Materialia, 2017, 138, 198-211.	7.9	62
60	Dynamic nanoindentation of articular porcine cartilage. Materials Science and Engineering C, 2011, 31, 789-795.	7.3	58
61	Thermophysical and Mechanical Properties of Advanced Single Crystalline Co-base Superalloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 4099-4109.	2.2	58
62	Mechanical Properties, Dislocation Density and Grain Structure of Ultrafine-Grained Aluminum and Aluminum-Magnesium Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2007, 38, 1941-1945.	2.2	56
63	Investigation of the final stages of solidification and eutectic phase formation in Re and Ru containing nickel-base superalloys. Journal of Crystal Growth, 2010, 312, 2137-2144.	1.5	56
64	Deformation and ultrafine dynamic recrystallization of quartz in pseudotachylyte-bearing brittle faults: A matter of a few seconds. Journal of Structural Geology, 2012, 38, 21-38.	2.3	55
65	Enhanced fatigue lives in AA1050A/AA5005 laminated metal composites produced by accumulative roll bonding. Acta Materialia, 2016, 120, 150-158.	7.9	55
66	Tailoring Nanostructured, Graded, and Particleâ€Reinforced Al Laminates by Accumulative Roll Bonding. Advanced Materials, 2011, 23, 2663-2668.	21.0	54
67	Friction stir welding of accumulative roll-bonded commercial-purity aluminium AA1050 and aluminium alloy AA6016. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 503, 163-166.	5.6	52
68	Improved creep strength of nickel-base superalloys by optimized Î³/Î³â€² partitioning behavior of solid solution strengthening elements. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 676, 411-420.	5.6	52
69	Investigation of the deformation behavior of aluminum micropillars produced by focused ion beam machining using Ga and Xe ions. Scripta Materialia, 2017, 127, 191-194.	5.2	52
70	Study on the indentation size effect in CaF2: Dislocation structure and hardness. Acta Materialia, 2009, 57, 1281-1289.	7.9	51
71	Double minimum creep in the rafting regime of a single-crystal Co-base superalloy. Scripta Materialia, 2018, 142, 129-132.	5.2	51
72	Investigation of the sliding contact properties of WC-Co hard metals using nanoscratch testing. Wear, 2007, 263, 1602-1609.	3.1	50

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73	Determination of the interfacial strength and fracture toughness of a-C:H coatings by in-situ microcantilever bending. Thin Solid Films, 2012, 522, 480-484.	1.8	50
74	Asymmetric accumulative roll bonding of aluminiumâ€“titanium composite sheets. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 576, 306-315.	5.6	50
75	Influence of lattice misfit on the internal stress and strain states before and after creep investigated in nickel-base superalloys containing rhenium and ruthenium. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 510-511, 295-300.	5.6	49
76	Fatigue behavior of ultrafine-grained Tiâ€“6Alâ€“4V â€˜ELIâ€™ alloy for medical applications. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 503, 145-147.	5.6	49
77	Tailoring Materials Properties by Accumulative Roll Bonding. Advanced Engineering Materials, 2010, 12, 740-746.	3.5	49
78	Tailoring materials properties of UFG aluminium alloys by accumulative roll bonded sandwich-like sheets. Journal of Materials Science, 2010, 45, 4733-4738.	3.7	48
79	Tension/Compression asymmetry of a creep deformed single crystal Co-base superalloy. Acta Materialia, 2019, 166, 597-610.	7.9	48
80	Designing bulk metallic glass and glass matrix composites in martensitic alloys. Journal of Alloys and Compounds, 2009, 483, 97-101.	5.5	47
81	Fracture toughness evaluation of NiAl single crystals by microcantileversâ€”a new continuous J-integral method. Journal of Materials Research, 2016, 31, 3786-3794.	2.6	47
82	Pseudotachylyte in muscovite-bearing quartzite: Coseismic friction-induced melting and plastic deformation of quartz. Journal of Structural Geology, 2011, 33, 169-186.	2.3	46
83	Influence of grain size and precipitation state on the fatigue lives and deformation mechanisms of CP aluminium and AA6082 in the VHCF-regime. International Journal of Fatigue, 2011, 33, 10-18.	5.7	46
84	Microsegregation and precipitates of an as-cast Co-based superalloyâ€”microstructural characterization and phase stability modelling. Journal of Materials Science, 2015, 50, 6329-6338.	3.7	46
85	Nanomechanical characterizations of metals and thin films. Surface and Interface Analysis, 1999, 27, 302-306.	1.8	45
86	Temperature dependence of element partitioning in rhenium and ruthenium bearing nickel-base superalloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 7939-7943.	5.6	45
87	Influence of stacking fault energy and dislocation character on slip transfer at coherent twin boundaries studied by micropillar compression. Acta Materialia, 2018, 154, 261-272.	7.9	44
88	Correlation between constitution, properties and machining performance of TiN/ZrN multilayers. Surface and Coatings Technology, 2004, 188-189, 331-337.	4.8	43
89	Nanohardness measurements for studying local mechanical properties of metals. Applied Physics A: Materials Science and Processing, 1998, 66, S843-S846.	2.3	42
90	Determination of plastic properties of polycrystalline metallic materials by nanoindentation: experiments and finite element simulations. Philosophical Magazine, 2006, 86, 5541-5551.	1.6	39

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91	Secondary Al-Si-Mg High-pressure Die Casting Alloys with Enhanced Ductility. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2015, 46, 1035-1045.	2.2	39
92	Enhanced Strength and Ductility in Ultrafine-Grained Aluminium Produced by Accumulative Roll Bonding. Advanced Engineering Materials, 2004, 6, 219-222.	3.5	37
93	Influence of rolling direction on strength and ductility of aluminium and aluminium alloys produced by accumulative roll bonding. Journal of Materials Science, 2008, 43, 7320-7325.	3.7	37
94	Understanding the extremely low fracture toughness of freestanding gold thin films by in-situ bulge testing in an AFM. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 691, 218-225.	5.6	37
95	High temperature properties and fatigue strength of novel wrought Î³/Î³â€² Co-base superalloys. Journal of Materials Research, 2017, 32, 4475-4482.	2.6	37
96	Global and local strain rate sensitivity of bimodal Al-laminates produced by accumulative roll bonding. Acta Materialia, 2016, 103, 643-650.	7.9	35
97	Influence of Co to Ni ratio in Î³â€²-strengthened model alloys on oxidation resistance and the efficacy of the halogen effect at 900â€¯Â°C. Corrosion Science, 2019, 156, 84-95.	6.6	35
98	Damage evolution during thermo-mechanical fatigue of a coated monocrystalline nickel-base superalloy. International Journal of Fatigue, 2008, 30, 313-317.	5.7	34
99	Macroâ€•and Nanomechanical Properties and Strain Rate Sensitivity of Accumulative Roll Bonded and Equal Channel Angular Pressed Ultrafineâ€Grained Materials. Advanced Engineering Materials, 2011, 13, 251-255.	3.5	34
100	Microstructure and local mechanical properties of Pt-modified nickel aluminides on nickel-base superalloys after thermo-mechanical fatigue. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 467, 15-23.	5.6	33
101	Influence of cross-rolling on the mechanical properties of an accumulative roll bonded aluminum alloy AA6014. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 597, 122-127.	5.6	32
102	Microstructure and Mechanical Properties of Accumulative Roll-Bonded AA1050A/AA5005 Laminated Metal Composites. Metals, 2016, 6, 56.	2.3	32
103	The nanoindentation of soft tissue: Current and developing approaches. Jom, 2008, 60, 49-53.	1.9	31
104	The temperature dependent lattice misfit of rhenium and ruthenium containing nickel-base superalloys â€" Experiment and modelling. Materials and Design, 2021, 198, 109362.	7.0	31
105	Creep Strength and Microstructure of Polycrystalline γ' - Strengthened Cobalt-base Superalloys. , 2012, , .		31
106	The mechanical properties of different lamellae and domains in PST-TiAl investigated with nanoindentations and atomic force microscopy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2002, 329-331, 184-189.	5.6	30
107	Deformation behaviour, microstructure and processing of accumulative roll bonded aluminium alloy AA6016. International Journal of Materials Research, 2007, 98, 320-324.	0.3	30
108	Nanoindentation and XRD investigations of single crystalline Niâ€"Ge brazed nickel-base superalloys PWA 1483 and RenÃ© N5. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 815-822.	5.6	30

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109	The influence of niobium, tantalum and zirconium on the microstructure and creep strength of fully lamellar Î³/Î±2 titanium aluminides. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 744, 46-53.	5.6	30
110	Deformation mechanisms and strain rate sensitivity of bimodal andÂultrafine-grained copper. Acta Materialia, 2020, 186, 363-373.	7.9	30
111	Microstructural evolution during deformation of tin dioxide nanoparticles in a comminution process. Acta Materialia, 2009, 57, 3060-3071.	7.9	29
112	Discontinuous Precipitation and Phase Stability In Re- and Ru-Containing Nickel-Base Superalloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 10-19.	2.2	29
113	In-situ tensile testing of crystalline diamond coatings using Raman spectroscopy. Surface and Coatings Technology, 2009, 204, 1022-1025.	4.8	28
114	Microstructural and micromechanical characterisation of TiAl alloys using atomic force microscopy and nanoindentation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 523, 235-241.	5.6	28
115	Morphology evolution of Ti3AlC carbide precipitates in high Nb containing TiAl alloys. Acta Materialia, 2017, 137, 36-44.	7.9	28
116	In situ bulge testing in an atomic force microscope: Microdeformation experiments of thin film membranes. Journal of Materials Research, 2007, 22, 2902-2911.	2.6	27
117	Formability of Accumulative Roll Bonded Aluminum AA1050 and AA6016 Investigated Using Bulge Tests. Advanced Engineering Materials, 2008, 10, 1101-1109.	3.5	27
118	Monotonic and cyclic deformation behaviour of ultrafine-grained aluminium. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 483-484, 481-484.	5.6	27
119	The correlation between the internal material length scale and the microstructure in nanoindentation experiments and simulations using the conventional mechanism-based strain gradient plasticity theory. Journal of Materials Research, 2009, 24, 1197-1207.	2.6	27
120	Influence of grain size and precipitates on the fatigue lives and deformation mechanisms in the VHCF-regime. Procedia Engineering, 2010, 2, 1025-1034.	1.2	27
121	Influence of rhenium and ruthenium on the local mechanical properties of the <i>Î³</i> and <i>Î³</i>â€² phases in nickel-base superalloys. Philosophical Magazine, 2011, 91, 4187-4199.	1.6	27
122	The grain boundary pinning effect of the Î¼ phase in an advanced polycrystalline Î³/Î³â€² Co-base superalloy. Journal of Alloys and Compounds, 2018, 753, 333-342.	5.5	27
123	Optimization of the heat treatment of additively manufactured Ni-base superalloy IN718. International Journal of Minerals, Metallurgy and Materials, 2020, 27, 640-648.	4.9	27
124	Micromechanics and ultrastructure of pyrolysed softwood cell walls. Acta Biomaterialia, 2010, 6, 4345-4351.	8.3	26
125	Experimental determination of the effective indenter shape and <i>Îµ</i>-factor for nanoindentation by continuously measuring the unloading stiffness. Journal of Materials Research, 2012, 27, 214-221.	2.6	26
126	Bulge fatigue testing of freestanding and supported gold films. Journal of Materials Research, 2014, 29, 267-276.	2.6	26

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127	The Thermal Stability of Intermetallic Compounds in an Asâ€Cast SX Coâ€Base Superalloy. Advanced Engineering Materials, 2015, 17, 741-747.	3.5	26
128	Mechanical characterization of metallic thin films by bulge and scratch testing. Surface and Coatings Technology, 2016, 289, 69-74.	4.8	26
129	Microstructural mechanical properties and yield point effects in Mo alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 319-321, 902-908.	5.6	24
130	Nanoindentation investigations to study solid solution hardening in Ni-based diffusion couples. Journal of Materials Research, 2009, 24, 1127-1134.	2.6	24
131	Quantitative metallography of structural materials with the atomic force microscope. Scripta Materialia, 1996, 35, 983-989.	5.2	23
132	Mechanical properties of ultrafine-grained AlZnMg(Cu)-alloys AA7020 and AA7075 processed by accumulative roll bonding. Journal of Materials Science, 2015, 50, 4422-4429.	3.7	23
133	On the transition from plastic deformation to crack initiation in the high- and very high-cycle fatigue regimes in plain carbon steels. International Journal of Fatigue, 2016, 93, 281-291.	5.7	23
134	Influence of rhenium on Î³â€²-strengthened cobalt-base superalloys. Journal of Materials Research, 2017, 32, 2551-2559.	2.6	23
135	The Importance of Diffusivity and Partitioning Behavior of Solid Solution Strengthening Elements for the High Temperature Creep Strength of Ni-Base Superalloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 6195-6206.	2.2	23
136	Understanding creep of a single-crystalline Co-Al-W-Ta superalloy by studying the deformation mechanism, segregation tendency and stacking fault energy. Acta Materialia, 2021, 214, 117019.	7.9	23
137	In-situ investigation on the deformation and damage behaviour of diamond-like carbon coated thin films under uniaxial loading. Thin Solid Films, 2009, 517, 1681-1685.	1.8	22
138	Influence of upscaling accumulative roll bonding on the homogeneity and mechanical properties of AA1050A. Journal of Materials Science, 2013, 48, 8377-8385.	3.7	22
139	Determination of the strain-rate sensitivity of ultrafine-grained materials by spherical nanoindentation. Journal of Materials Research, 2017, 32, 1466-1473.	2.6	22
140	The influence of microstructure on the magnetic properties of WC/Co hardmetals. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2006, 423, 306-312.	5.6	21
141	Microstructure, Lattice Misfit, and High-Temperature Strength of Î³â€²-Strengthened Co-Al-W-Ge Model Superalloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 2141-2149.	2.2	21
142	On the temperature dependent strengthening of nickel by transition metal solutes. Acta Materialia, 2017, 137, 54-63.	7.9	21
143	High Lightweight Potential of Ultrafineâ€Grained Aluminum/Steel Laminated Metal Composites Produced by Accumulative Roll Bonding. Advanced Engineering Materials, 2019, 21, 1800286.	3.5	21
144	Influence of small amounts of Si and Cr on the high temperature oxidation behavior of novel cobalt base superalloys. Corrosion Science, 2021, 184, 109388.	6.6	21

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145	Deformation processes at crack tips in NiAl single- and bicrystals. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1997, 239-240, 378-385.	5.6	20
146	Isolating the effect of residual stresses on coating wear by a mechanical stress relaxation technique. Thin Solid Films, 2017, 638, 159-166.	1.8	20
147	On the Precipitation-Strengthening Contribution of the Ta-Containing Co3(Al,W)-Phase to the Creep Properties of Î³/Î³â€² Cobalt-Base Superalloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 1567-1574.	2.2	20
148	Atomic force microscopy investigations of loaded crack tips in NiAl. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1996, 14, 1157.	1.6	19
149	Particle Based Alloying by Accumulative Roll Bonding in the System Al-Cu. Metals, 2011, 1, 65-78.	2.3	19
150	Effect of thermal annealing on the mechanical properties of low-emissivity physical vapor deposited multilayer-coatings for architectural applications. Thin Solid Films, 2012, 520, 7130-7135.	1.8	19
151	Crack nucleation and elastic / plastic deformation of TiAl alloys investigated by in-situ loaded atomic force microscopy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 689, 11-16.	5.6	19
152	Scanning tunneling microscopy in UHV with an X,Y,Z micropositioner. Review of Scientific Instruments, 1994, 65, 2252-2254.	1.3	18
153	Investigations of loaded crack tips in NiAl by atomic force microscopy. Scripta Metallurgica Et Materialia, 1995, 33, 1187-1192.	1.0	18
154	Study of the fracture behavior in soft and hard oriented NiAl single crystals by AFM. Intermetallics, 1999, 7, 491-499.	3.9	18
155	Life prediction of thermally highly loaded components: modelling the damage process of a rocket combustion chamber hot wall. CEAS Space Journal, 2011, 1, 83-97.	2.3	18
156	Influence of Iridium on the Properties of Î³â€²â€Strengthened Coâ€Base Superalloys. Advanced Engineering Materials, 2015, 17, 748-754.	3.5	18
157	Characterization of Î³ and Î³â€² phases in 2nd and 4th generation single crystal nickel-base superalloys. Metals and Materials International, 2017, 23, 126-131.	3.4	18
158	Microstructure and compression strength of Co-based superalloys hardened by Î³â€² and carbide precipitation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 734, 437-444.	5.6	18
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160	Grain boundary mediated plasticity: A blessing for the ductility of metallic thin films?. Acta Materialia, 2021, 215, 117079.	7.9	18
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