Mathias Gken

List of Publications by Citations

289 papers	9,407 citations	53 h-index	85 g-index
302 ext. papers	10,979 ext. citations	4.4 avg, IF	6.41 L-index

#	Paper	IF	Citations
289	High-performance direct conversion X-ray detectors based on sintered hybrid lead triiodide perovskite wafers. *Nature Photonics*, **2017**, 11, 436-440	33.9	289
288	Indentation size effect in metallic materials: Correcting for the size of the plastic zone. *Scripta Materialia*, **2005**, 52, 1093-1097	5.6	283
287	Mechanical properties of copper/bronze laminates: Role of interfaces. *Acta Materialia*, **2016**, 116, 43-52	8.4	280
286	Strain rate sensitivity of ultrafine-grained aluminium processed by severe plastic deformation. *Scripta Materialia*, **2005**, 53, 189-194	5.6	248
285	Indentation size effect in metallic materials: Modeling strength from pop-in to macroscopic hardness using geometrically necessary dislocations. *Acta Materialia*, **2006**, 54, 2547-2555	8.4	235
284	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	2.5	227
283	Microstructure and creep strength of different γ′-strengthened Co-base superalloy variants. *Scripta Materialia*, **2010**, 63, 1197-1200	5.6	208
282	Imaging and measurement of local mechanical material properties by atomic force acoustic microscopy. *Surface and Interface Analysis*, **2002**, 33, 65-70	1.5	186
281	Interface affected zone for optimal strength and ductility in heterogeneous laminate. *Materials Today*, **2018**, 21, 713-719	21.8	173
280	Enhanced Strength and Ductility in Ultrafine-Grained Aluminium Produced by Accumulative Roll Bonding. *Advanced Engineering Materials*, **2004**, 6, 781-784	3.5	145
279	High temperature oxidation of γ′-strengthened Co-base superalloys. *Corrosion Science*, **2011**, 53, 2027-2034	6.8	139
278	Elemental partitioning and mechanical properties of Ti- and Ta-containing $Co_3(Al,W)$-base superalloys studied by atom probe tomography and nanoindentation. *Acta Materialia*, **2014**, 78, 78-85	8.4	136
277	Creep properties of different γ′-strengthened Co-base superalloys. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2012**, 550, 333-341	5.3	136
276	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	5.3	131
275	Elastic Moduli and Hardness of Cubic Silicon Nitride. *Journal of the American Ceramic Society*, **2004**, 85, 86-90	3.8	122
274	The effect of Re and Ru on γ′ microstructure, γ solid solution strengthening and creep strength in nickel-base superalloys. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2011**, 528, 3435-3444	5.3	120
273	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	5.3	116

272	Microstructure development and hardness of a powder metallurgical multi phase TiAl based alloy. *Intermetallics*, **2012**, 22, 231-240	3.5	115
271	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	2.5	114
270	In situ micro-cantilever tests to study fracture properties of NiAl single crystals. *Acta Materialia*, **2012**, 60, 1193-1200	8.4	109
269	Mechanical properties and lattice misfit of strengthened Co-base superalloys in the CoWAlTi quaternary system. *Intermetallics*, **2014**, 55, 28-39	3.5	107
268	Microstructural properties of superalloys investigated by nanoindentations in an atomic force microscope. *Acta Materialia*, **1999**, 47, 1043-1052	8.4	106
267	A review of experimental approaches to fracture toughness evaluation at the micro-scale. *Materials and Design*, **2019**, 173, 107762	8.1	99
266	Hardness and modulus of the lamellar microstructure in PST-TiAl studied by nanoindentations and AFM. *Acta Materialia*, **2001**, 49, 903-911	8.4	94
265	Diffusion of solutes in fcc Cobalt investigated by diffusion couples and first principles kinetic Monte Carlo. *Acta Materialia*, **2016**, 106, 304-312	8.4	90
264	Mechanical properties of hyaline and repair cartilage studied by nanoindentation. *Acta Biomaterialia*, **2007**, 3, 873-81	10.8	90
263	Novel wrought cobalt base superalloys with high strength and improved oxidation resistance. *Scripta Materialia*, **2015**, 109, 104-107	5.6	89
262	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	8.4	85
261	Accelerated grain refinement during accumulative roll bonding by nanoparticle reinforcement. *Scripta Materialia*, **2011**, 64, 245-248	5.6	84
260	Finite element study for nanoindentation measurements on two-phase materials. *Journal of Materials Research*, **2004**, 19, 85-93	2.5	78
259	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	5.3	75
258	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	5.3	74
257	Indentation size effect in NiFe solid solutions. *Acta Materialia*, **2007**, 55, 6825-6833	8.4	74
256	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	71
255	Localized corrosion of ultrafine-grained AlMg model alloys. *Electrochimica Acta*, **2010**, 55, 1966-1970	6.7	71

254	A novel type of Co□Ti□Cr-base □ superalloys with low mass density. *Acta Materialia*, **2017**, 135, 244-251	8.4	70
253	On the importance of a connected hard-phase skeleton for the creep resistance of Mg alloys. *Acta Materialia*, **2012**, 60, 2277-2289	8.4	70
252	Deformation kinetics of nanocrystalline nickel. *Acta Materialia*, **2007**, 55, 5708-5717	8.4	67
251	The effect of tungsten content on the properties of L12-hardened Co□Al□W alloys. *Journal of Alloys and Compounds*, **2015**, 632, 110-115	5.7	66
250	Indentation size effect in spherical and pyramidal indentations. *Journal Physics D: Applied Physics*, **2008**, 41, 074005	3	65
249	Fracture toughness of silicon nitride thin films of different thicknesses as measured by bulge tests. *Acta Materialia*, **2011**, 59, 1772-1779	8.4	63
248	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	4.4	61
247	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	8.4	60
246	Reasons for the enhanced phase stability of Ru-containing nickel-based superalloys. *Acta Materialia* , **2011**, 59, 6563-6573	8.4	59
245	Strain-rate sensitivity of ultrafine-grained materials. *International Journal of Materials Research*, **2005**, 96, 566-571		58
244	Characterization of phases of aluminized nickel base superalloys. *Surface and Coatings Technology*, **2003**, 167, 83-96	4.4	57
243	Intermediate Co/Ni-base model superalloys □Thermophysical properties, creep and oxidation. *Scripta Materialia*, **2016**, 112, 83-86	5.6	55
242	Cell-based resurfacing of large cartilage defects: long-term evaluation of grafts from autologous transgene-activated periosteal cells in a porcine model of osteoarthritis. *Arthritis and Rheumatism*, **2008**, 58, 475-88		55
241	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	5.3	55
240	Hetero-deformation induced (HDI) hardening does not increase linearly with strain gradient. *Scripta Materialia*, **2020**, 174, 19-23	5.6	55
239	On the grain boundary strengthening effect of boron in □ Cobalt-base superalloys. *Acta Materialia*, **2018**, 145, 247-254	8.4	53
238	Segregation assisted microtwinning during creep of a polycrystalline L12-hardened Co-base superalloy. *Acta Materialia*, **2017**, 123, 295-304	8.4	53
237	Elemental partitioning, lattice misfit and creep behaviour of Cr containing □strengthened Co base superalloys. *Materials Science and Technology*, **2016**, 32, 220-225	1.5	53

236	Nanoindentation studies of the mechanical properties of the γ phase in a creep deformed Re containing nickel-based superalloy. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2015**, 634, 202-208	5.3	52
235	Microcantilever bending experiments in NiAl – Evaluation, size effects, and crack tip plasticity. *Journal of Materials Research*, **2014**, 29, 2129-2140	2.5	52
234	Microstructure-dependent deformation behaviour of bcc-metals – Indentation size effect and strain rate sensitivity. *Philosophical Magazine*, **2015**, 95, 1766-1779	1.6	50
233	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	1.6	49
232	Dynamic nanoindentation of articular porcine cartilage. *Materials Science and Engineering C*, **2011**, 31, 789-795	8.3	48
231	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	2.3	48
230	Study on the indentation size effect in CaF2: Dislocation structure and hardness. *Acta Materialia*, **2009**, 57, 1281-1289	8.4	47
229	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	5.3	46
228	In-situ observation of dislocation dynamics near heterostructured interfaces. *Materials Research Letters*, **2019**, 7, 376-382	7.4	45
227	Enhanced fatigue lives in AA1050A/AA5005 laminated metal composites produced by accumulative roll bonding. *Acta Materialia*, **2016**, 120, 150-158	8.4	45
226	Microstructural evolution during creep of Ca-containing AZ91. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2009**, 510-511, 398-402	5.3	45
225	Tailoring nanostructured, graded, and particle-reinforced Al laminates by accumulative roll bonding. *Advanced Materials*, **2011**, 23, 2663-8	24	44
224	Tailoring Materials Properties by Accumulative Roll Bonding. *Advanced Engineering Materials*, **2010**, 12, 740-746	3.5	44
223	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	5.3	43
222	Designing bulk metallic glass and glass matrix composites in martensitic alloys. *Journal of Alloys and Compounds*, **2009**, 483, 97-101	5.7	43
221	Asymmetric accumulative roll bonding of aluminium–titanium composite sheets. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2013**, 576, 306-315	5.3	42
220	Investigation of the sliding contact properties of WC-Co hard metals using nanoscratch testing. *Wear*, **2007**, 263, 1602-1609	3.5	42
219	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	3	41

218	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	2.2	41
217	Tailoring materials properties of UFG aluminium alloys by accumulative roll bonded sandwich-like sheets. *Journal of Materials Science*, **2010**, 45, 4733-4738	4.3	41
216	Correlation between constitution, properties and machining performance of TiN/ZrN multilayers. *Surface and Coatings Technology*, **2004**, 188-189, 331-337	4.4	41
215	Nanomechanical characterizations of metals and thin films. *Surface and Interface Analysis*, **1999**, 27, 302-306	1.5	41
214	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	5.6	40
213	Double minimum creep in the rafting regime of a single-crystal Co-base superalloy. *Scripta Materialia*, **2018**, 142, 129-132	5.6	39
212	Size-dependent fracture toughness of tungsten. *Acta Materialia*, **2017**, 138, 198-211	8.4	39
211	Fatigue behavior of ultrafine-grained Ti–6Al–4V ELI alloy for medical applications. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2009**, 503, 145-147	5.3	39
210	Microsegregation and precipitates of an as-cast Co-based superalloy—microstructural characterization and phase stability modelling. *Journal of Materials Science*, **2015**, 50, 6329-6338	4.3	38
209	Improved creep strength of nickel-base superalloys by optimized γ′ partitioning behavior of solid solution strengthening elements. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2016**, 676, 411-420	5.3	38
208	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	38
207	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	2.3	38
206	Pseudotachylyte in muscovite-bearing quartzite: Coseismic friction-induced melting and plastic deformation of quartz. *Journal of Structural Geology*, **2011**, 33, 169-186	3	37
205	Nanohardness measurements for studying local mechanical properties of metals. *Applied Physics A: Materials Science and Processing*, **1998**, 66, S843-S846	2.6	35
204	Determination of plastic properties of polycrystalline metallic materials by nanoindentation: experiments and finite element simulations. *Philosophical Magazine*, **2006**, 86, 5541-5551	1.6	33
203	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	4.3	32
202	Enhanced Strength and Ductility in Ultrafine-Grained Aluminium Produced by Accumulative Roll Bonding. *Advanced Engineering Materials*, **2004**, 6, 219-222	3.5	32
201	Fracture toughness evaluation of NiAl single crystals by microcantilevers—a new continuous J-integral method. *Journal of Materials Research*, **2016**, 31, 3786-3794	2.5	31

200	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	5.3	31
199	Damage evolution during thermo-mechanical fatigue of a coated monocrystalline nickel-base superalloy. *International Journal of Fatigue*, **2008**, 30, 313-317	5	31
198	Deformation behaviour, microstructure and processing of accumulative roll bonded aluminium alloy AA6016. *International Journal of Materials Research*, **2007**, 98, 320-324	0.5	30
197	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	5.3	30
196	Macro- and Nanomechanical Properties and Strain Rate Sensitivity of Accumulative Roll Bonded and Equal Channel Angular Pressed Ultrafine-Grained Materials. *Advanced Engineering Materials*, **2011**, 13, 251-255	3.5	29
195	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	5.3	29
194	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	5.3	28
193	The nanoindentation of soft tissue: Current and developing approaches. *Jom*, **2008**, 60, 49-53	2.1	28
192	Influence of Co to Ni ratio in γ′-strengthened model alloys on oxidation resistance and the efficacy of the halogen effect at 900 °C. *Corrosion Science*, **2019**, 156, 84-95	6.8	27
191	In situ bulge testing in an atomic force microscope: Microdeformation experiments of thin film membranes. *Journal of Materials Research*, **2007**, 22, 2902-2911	2.5	27
190	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	5.3	26
189	Microstructure and Mechanical Properties of Accumulative Roll-Bonded AA1050A/AA5005 Laminated Metal Composites. *Metals*, **2016**, 6, 56	2.3	26
188	Tension/Compression asymmetry of a creep deformed single crystal Co-base superalloy. *Acta Materialia*, **2019**, 166, 597-610	8.4	26
187	Nanoindentation and XRD investigations of single crystalline Ni□Si brazed nickel-base superalloys PWA 1483 and Ren□N5. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2011**, 528, 815-822	5.3	25
186	Microstructural evolution during deformation of tin dioxide nanoparticles in a comminution process. *Acta Materialia*, **2009**, 57, 3060-3071	8.4	25
185	Micromechanics and ultrastructure of pyrolysed softwood cell walls. *Acta Biomaterialia*, **2010**, 6, 4345-51	10.8	25
184	Formability of Accumulative Roll Bonded Aluminum AA1050 and AA6016 Investigated Using Bulge Tests. *Advanced Engineering Materials*, **2008**, 10, 1101-1109	3.5	25
183	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	8.4	25

182	Global and local strain rate sensitivity of bimodal Al-laminates produced by accumulative roll bonding. *Acta Materialia*, **2016**, 103, 643-650	8.4	24
181	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	2.3	24
180	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	5.3	23
179	High temperature properties and fatigue strength of novel wrought γ′ Co-base superalloys. *Journal of Materials Research*, **2017**, 32, 4475-4482	2.5	23
178	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	2.5	23
177	Influence of grain size and precipitates on the fatigue lives and deformation mechanisms in the VHCF-regime. *Procedia Engineering*, **2010**, 2, 1025-1034		23
176	Monotonic and cyclic deformation behaviour of ultrafine-grained aluminium. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2008**, 483-484, 481-484	5.3	23
175	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	2.3	22
174	Mechanical characterization of metallic thin films by bulge and scratch testing. *Surface and Coatings Technology*, **2016**, 289, 69-74	4.4	22
173	Bulge fatigue testing of freestanding and supported gold films. *Journal of Materials Research*, **2014**, 29, 267-276	2.5	22
172	Nanoindentation investigations to study solid solution hardening in Ni-based diffusion couples. *Journal of Materials Research*, **2009**, 24, 1127-1134	2.5	22
171	In-situ tensile testing of crystalline diamond coatings using Raman spectroscopy. *Surface and Coatings Technology*, **2009**, 204, 1022-1025	4.4	22
170	Morphology evolution of Ti 3 AlC carbide precipitates in high Nb containing TiAl alloys. *Acta Materialia*, **2017**, 137, 36-44	8.4	21
169	Influence of rhenium and ruthenium on the local mechanical properties of the γ and γ′ phases in nickel-base superalloys. *Philosophical Magazine*, **2011**, 91, 4187-4199	1.6	21
168	Experimental determination of the effective indenter shape and β factor for nanoindentation by continuously measuring the unloading stiffness. *Journal of Materials Research*, **2012**, 27, 214-221	2.5	21
167	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	5.3	21
166	Creep Strength and Microstructure of Polycrystalline γ' - Strengthened Cobalt-base Superalloys **2012**,		21
165	Mechanical properties of ultrafine-grained AlZnMg(Cu)-alloys AA7020 and AA7075 processed by accumulative roll bonding. *Journal of Materials Science*, **2015**, 50, 4422-4429	4.3	20

164	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	5.3	20
163	Determination of the strain-rate sensitivity of ultrafine-grained materials by spherical nanoindentation. *Journal of Materials Research*, **2017**, 32, 1466-1473	2.5	19
162	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	2.2	19
161	Quantitative metallography of structural materials with the atomic force microscope. *Scripta Materialia*, **1996**, 35, 983-989	5.6	19
160	The Thermal Stability of Intermetallic Compounds in an As-Cast SX Co-Base Superalloy. *Advanced Engineering Materials*, **2015**, 17, 741-747	3.5	18
159	Particle Based Alloying by Accumulative Roll Bonding in the System Al-Cu. *Metals*, **2011**, 1, 65-78	2.3	18
158	Deformation mechanisms and strain rate sensitivity of bimodal and ultrafine-grained copper. *Acta Materialia*, **2020**, 186, 363-373	8.4	18
157	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	5.3	17
156	Optimization of the heat treatment of additively manufactured Ni-base superalloy IN718. *International Journal of Minerals, Metallurgy and Materials*, **2020**, 27, 640-648	3.1	17
155	The grain boundary pinning effect of the phase in an advanced polycrystalline Co-base superalloy. *Journal of Alloys and Compounds*, **2018**, 753, 333-342	5.7	17
154	Influence of upscaling accumulative roll bonding on the homogeneity and mechanical properties of AA1050A. *Journal of Materials Science*, **2013**, 48, 8377-8385	4.3	17
153	Scanning tunneling microscopy in UHV with an X,Y,Z micropositioner. *Review of Scientific Instruments*, **1994**, 65, 2252-2254	1.7	17
152	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	2.2	16
151	Study of the fracture behavior in soft and hard oriented NiAl single crystals by AFM. *Intermetallics*, **1999**, 7, 491-499	3.5	16
150	On the temperature dependent strengthening of nickel by transition metal solutes. *Acta Materialia*, **2017**, 137, 54-63	8.4	15
149	Microstructure, Lattice Misfit, and High-Temperature Strength of -Strengthened Co-Al-W-Ge Model Superalloys. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2016**, 47, 2141-2149	2.3	15
148	Influence of rhenium on -strengthened cobalt-base superalloys. *Journal of Materials Research*, **2017**, 32, 2551-2559	2.5	15
147	Creep Strength and Microstructure of Polycrystalline Strengthened Cobalt-Base Superalloys **2012**, 695-703		15

146	Tailored Heat Treated Accumulative Roll Bonded Aluminum Blanks: Microstructure and Mechanical Behavior. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2012**, 43, 3097-3107	2.3	15
145	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		15
144	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	5.3	15
143	The influence of niobium, tantalum and zirconium on the microstructure and creep strength of fully lamellar γ/α2 titanium aluminides. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2019**, 744, 46-53	5.3	15
142	Enhanced superplastic deformation behavior of ultrafine-grained Ti-6Al-4V alloy. *Materialwissenschaft Und Werkstofftechnik*, **2008**, 39, 367-370	0.9	14
141	Investigations of loaded crack tips in NiAl by atomic force microscopy. *Scripta Metallurgica Et Materialia*, **1995**, 33, 1187-1192		14
140	Influence of Iridium on the Properties of γ′-Strengthened Co-Base Superalloys. *Advanced Engineering Materials*, **2015**, 17, 748-754	3.5	13
139	A flexible method for the preparation of thin film samples for in situ TEM characterization combining shadow-FIB milling and electron-beam-assisted etching. *Ultramicroscopy*, **2016**, 171, 82-88	3.1	13
138	High Lightweight Potential of Ultrafine-Grained Aluminum/Steel Laminated Metal Composites Produced by Accumulative Roll Bonding. *Advanced Engineering Materials*, **2019**, 21, 1800286	3.5	13
137	Isolating the effect of residual stresses on coating wear by a mechanical stress relaxation technique. *Thin Solid Films*, **2017**, 638, 159-166	2.2	13
136	Miniaturized bend tests on partially stabilized EB-PVD ZrO2 thermal barrier coatings. *Surface and Coatings Technology*, **2011**, 205, 3245-3250	4.4	13
135	Particle Hardening in Creep-Resistant Mg-Alloy MRI 230D Probed by Nanoindenting Atomic Force Microscopy. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2009**, 40, 257-261	2.3	13
134	Thickness and grain size dependence of the strength of copper thin films as investigated with bulge tests and nanoindentations. *Philosophical Magazine*, **2012**, 92, 3172-3187	1.6	13
133	Microimprinting of nanocrystalline metals Influence of microstructure and work hardening. *Journal of Materials Processing Technology*, **2010**, 210, 1787-1793	5.3	13
132	XRD profile analysis characterization of ultrafine grained AlMg alloys. *Journal of Materials Science*, **2008**, 43, 7481-7487	4.3	13
131	Elastic moduli and hardness of c-Zr2.86(N0.88O0.12)4 having Th3P4-type structure. *Applied Physics Letters*, **2007**, 90, 191910	3.4	13
130	Finite element simulation of spherical indentation in the elastic-plastic transition. *International Journal of Materials Research*, **2002**, 93, 857-861		13
129	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	13

128	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	2.3	12
127	On the Precipitation-Strengthening Contribution of the Ta-Containing Co3(Al,W)-Phase to the Creep Properties of □ Cobalt-Base Superalloys. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2020**, 51, 1567-1574	2.3	12
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