

Dierk Raabe

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

1,038
papers

56,722
citations

122
h-index

194
g-index

1,087
ext. papers

67,736
ext. citations

6.1
avg. IF

8.41
L-index

#	Paper	IF	Citations
1038	Characterizing Localized Microstructural Deformation of Multiphase Steel by Crystal Plasticity Simulation with Multi-Constitutive Law. <i>Journal of the Japan Society for Technology of Plasticity</i> , 2022 , 63, 1-8	0.3	0
1037	First evidence of crucible steel production in Medieval Anatolia, Kubadabad: A trace for possible technology exchange between Anatolia and Southern Asia. <i>Journal of Archaeological Science</i> , 2022 , 137, 105529	2.9	0
1036	Hierarchical nature of hydrogen-based direct reduction of iron oxides. <i>Scripta Materialia</i> , 2022 , 114571	5.6	7
1035	A cracking oxygen story: A new view of stress corrosion cracking in titanium alloys. <i>Acta Materialia</i> , 2022 , 227, 117687	8.4	0
1034	On the influence of heavy warm reduction on the microstructure and mechanical properties of a medium-carbon ferritic pearlitic steel. <i>International Journal of Materials Research</i> , 2022 , 95, 1108-1114	0.5	0
1033	Laser-equipped gas reaction chamber for probing environmentally sensitive materials at near atomic scale.. <i>PLoS ONE</i> , 2022 , 17, e0262543	3.7	2
1032	Green steel at its crossroads: Hybrid hydrogen-based reduction of iron ores. <i>Journal of Cleaner Production</i> , 2022 , 340, 130805	10.3	7
1031	Quantitative analysis of grain boundary diffusion, segregation and precipitation at a sub-nanometer scale. <i>Acta Materialia</i> , 2022 , 225, 117522	8.4	1
1030	Revealing in-plane grain boundary composition features through machine learning from atom probe tomography data. <i>Acta Materialia</i> , 2022 , 226, 117633	8.4	0
1029	CALPHAD-informed phase-field model for two-sublattice phases based on chemical potentials: ϵ phase precipitation in Al-Zn-Mg-Cu alloys. <i>Acta Materialia</i> , 2022 , 226, 117602	8.4	1
1028	Superior mechanical properties of a selective-laser-melted AlZnMgCuScZr alloy enabled by a tunable hierarchical microstructure and dual-nanoprecipitation. <i>Materials Today</i> , 2022 , 52, 90-101	21.8	3
1027	Hydrogen trapping and embrittlement in high-strength Al alloys.. <i>Nature</i> , 2022 , 602, 437-441	50.4	9
1026	Chemo-Mechanical Phase-Field Modeling of Iron Oxide Reduction with Hydrogen. <i>Acta Materialia</i> , 2022 , 117899	8.4	4
1025	Massive interstitial solid solution alloys achieve near-theoretical strength.. <i>Nature Communications</i> , 2022 , 13, 1102	17.4	3
1024	Making sustainable aluminum by recycling scrap: The science of 'dirty' alloys. <i>Progress in Materials Science</i> , 2022 , 100947	42.2	8
1023	Lossless multi-scale constitutive elastic relations with artificial intelligence. <i>Npj Computational Materials</i> , 2022 , 8,	10.9	2
1022	The Influence of Temperature on the Strain-hardening Behavior of Fe-22/25/28Mn-3Al-3Si TRIP/TWIP Steels. <i>Materialia</i> , 2022 , 101425	3.2	1

1021	A sustainable ultra-high strength Fe18Mn3Ti maraging steel through controlled solute segregation and Mn nanoprecipitation.. <i>Nature Communications</i> , 2022 , 13, 2330	17.4	3
1020	Modeling and simulation of microstructure in metallic systems based on multi-physics approaches. <i>Npj Computational Materials</i> , 2022 , 8,	10.9	1
1019	Grain boundary characterization and grain size measurement in an ultrafine-grained steel. <i>International Journal of Materials Research</i> , 2022 , 95, 513-517	0.5	1
1018	Determination and analysis of the constitutive parameters of temperature-dependent dislocation-density-based crystal plasticity models. <i>Mechanics of Materials</i> , 2021 , 104117	3.3	5
1017	Symbiotic crystal-glass alloys via dynamic chemical partitioning. <i>Materials Today</i> , 2021 , 51, 6-6	21.8	4
1016	Substantially enhanced plasticity of bulk metallic glasses by densifying local atomic packing. <i>Nature Communications</i> , 2021 , 12, 6582	17.4	5
1015	Iron-rich High Entropy Alloys 2021 , 389-421		1
1014	Ti-bearing lightweight steel with large high temperature ductility via thermally stable multi-phase microstructure. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021 , 808, 140954	5.3	3
1013	Parallel Dislocation Networks and Cottrell Atmospheres Reduce Thermal Conductivity of PbTe Thermoelectrics. <i>Advanced Functional Materials</i> , 2021 , 31, 2101214	15.6	15
1012	The hidden structure dependence of the chemical life of dislocations. <i>Science Advances</i> , 2021 , 7,	14.3	6
1011	Phase-Field Modeling of Chemoelastic Binodal/Spinodal Relations and Solute Segregation to Defects in Binary Alloys. <i>Materials</i> , 2021 , 14,	3.5	2
1010	3d transition-metal high-entropy Invar alloy developed by adjusting the valence-electron concentration. <i>Physical Review Materials</i> , 2021 , 5,	3.2	3
1009	Orientation-dependent plastic deformation mechanisms and competition with stress-induced phase transformation in microscale NiTi. <i>Acta Materialia</i> , 2021 , 208, 116731	8.4	10
1008	In situ correlation between metastable phase-transformation mechanism and kinetics in a metallic glass. <i>Nature Communications</i> , 2021 , 12, 2839	17.4	7
1007	Influence of microstructure and atomic-scale chemistry on the direct reduction of iron ore with hydrogen at 700°C. <i>Acta Materialia</i> , 2021 , 212, 116933	8.4	17
1006	Sustainable steel through hydrogen plasma reduction of iron ore: Process, kinetics, microstructure, chemistry. <i>Acta Materialia</i> , 2021 , 213, 116971	8.4	11
1005	On the Formation Mechanism of Column Damage Within Modular Taper Junctions. <i>Journal of Arthroplasty</i> , 2021 , 36, 2603-2611.e2	4.4	2
1004	Beyond Solid Solution High-Entropy Alloys: Tailoring Magnetic Properties via Spinodal Decomposition. <i>Advanced Functional Materials</i> , 2021 , 31, 2007668	15.6	21

1003	Comparative study of hydrogen embrittlement resistance between additively and conventionally manufactured 304L austenitic stainless steels. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021 , 803, 140499	5.3	9
1002	Reducing hot tearing by grain boundary segregation engineering in additive manufacturing: example of an AlxCoCrFeNi high-entropy alloy. <i>Acta Materialia</i> , 2021 , 204, 116505	8.4	43
1001	Nucleation and growth of β phase in a metastable β titanium Ti-5Al-5Mo-5V-3Cr alloy: Influence from the nano-scale, ordered-orthorhombic O' phase and β compositional evolution. <i>Scripta Materialia</i> , 2021 , 194, 113672	5.6	6
1000	Revisiting β phase embrittlement in metastable β titanium alloys: Role of elemental partitioning. <i>Scripta Materialia</i> , 2021 , 193, 38-42	5.6	11
999	Intercritical annealing to achieve a positive strain-rate sensitivity of mechanical properties and suppression of macroscopic plastic instabilities in multi-phase medium-Mn steels. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021 , 803, 140469-140469	5.3	6
998	Machine-learning-enhanced time-of-flight mass spectrometry analysis. <i>Patterns</i> , 2021 , 2, 100192	5.1	4
997	Strain rate dependency of dislocation plasticity. <i>Nature Communications</i> , 2021 , 12, 1845	17.4	21
996	Teaching solid mechanics to artificial intelligence – fast solver for heterogeneous materials. <i>Npj Computational Materials</i> , 2021 , 7,	10.9	10
995	Chemical heterogeneity enhances hydrogen resistance in high-strength steels. <i>Nature Materials</i> , 2021 , 20, 1629-1634	27	14
994	Hierarchical crack buffering triples ductility in eutectic herringbone high-entropy alloys. <i>Science</i> , 2021 , 373, 912-918	33.3	60
993	Twins – A weak link in the magnetic hardening of ThMn12-type permanent magnets. <i>Acta Materialia</i> , 2021 , 214, 116968	8.4	11
992	Spinodal Decomposition in Nanocrystalline Alloys. <i>Acta Materialia</i> , 2021 , 215, 117054	8.4	5
991	CALPHAD-informed phase-field modeling of grain boundary microchemistry and precipitation in Al-Zn-Mg-Cu alloys. <i>Acta Materialia</i> , 2021 , 214, 116966	8.4	9
990	Ultrastrong and Ductile Soft Magnetic High-Entropy Alloys via Coherent Ordered Nanoprecipitates. <i>Advanced Materials</i> , 2021 , 33, e2102139	24	18
989	Dopant-segregation to grain boundaries controls electrical conductivity of n-type NbCo(Pt)Sn half-Heusler alloy mediating thermoelectric performance. <i>Acta Materialia</i> , 2021 , 217, 117147	8.4	6
988	Recrystallization kinetics, mechanisms, and topology in alloys processed by laser powder-bed fusion: AISI 316L stainless steel as example. <i>Materialia</i> , 2021 , 101236	3.2	6
987	The role of Ca, Al and Zn on room temperature ductility and grain boundary cohesion of magnesium. <i>Journal of Magnesium and Alloys</i> , 2021 , 9, 1521-1536	8.8	6
986	Reactive wear protection through strong and deformable oxide nanocomposite surfaces. <i>Nature Communications</i> , 2021 , 12, 5518	17.4	8

985	Discovery and Implications of Hidden Atomic-Scale Structure in a Metallic Meteorite. <i>Nano Letters</i> , 2021 , 21, 8135-8142	11.5	1
984	Topological aspects responsible for recrystallization evolution in an IF-steel sheet – Investigation with cellular-automaton simulations. <i>Computational Materials Science</i> , 2021 , 198, 110643	3.2	4
983	Revealing atomic-scale vacancy-solute interaction in nickel. <i>Scripta Materialia</i> , 2021 , 203, 114036	5.6	1
982	Large-deformation crystal plasticity simulation of microstructure and microtexture evolution through adaptive remeshing. <i>International Journal of Plasticity</i> , 2021 , 146, 103078	7.6	3
981	Magnetolectric Tuning of Pinning-Type Permanent Magnets through Atomic-Scale Engineering of Grain Boundaries. <i>Advanced Materials</i> , 2021 , 33, e2006853	24	6
980	High-strength Damascus steel by additive manufacturing. <i>Nature</i> , 2020 , 582, 515-519	50.4	91
979	A strong and ductile medium-entropy alloy resists hydrogen embrittlement and corrosion. <i>Nature Communications</i> , 2020 , 11, 3081	17.4	46
978	Snoek-type damping performance in strong and ductile high-entropy alloys. <i>Science Advances</i> , 2020 , 6, eaba7802	14.3	23
977	Interplay of Chemistry and Faceting at Grain Boundaries in a Model Al Alloy. <i>Physical Review Letters</i> , 2020 , 124, 106102	7.4	15
976	Interstitial doping enhances the strength-ductility synergy in a CoCrNi medium entropy alloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020 , 781, 139242	5.3	33
975	Metallic Implants: Atomic Scale Origin of Metal Ion Release from Hip Implant Taper Junctions (Adv. Sci. 5/2020). <i>Advanced Science</i> , 2020 , 7, 2070027	13.6	78
974	Chemical boundary engineering: A new route toward lean, ultrastrong yet ductile steels. <i>Science Advances</i> , 2020 , 6, eaay1430	14.3	51
973	An efficient and robust approach to determine material parameters of crystal plasticity constitutive laws from macro-scale stress-strain curves. <i>International Journal of Plasticity</i> , 2020 , 134, 102779	7.6	22
972	Solute hydrogen and deuterium observed at the near atomic scale in high-strength steel. <i>Acta Materialia</i> , 2020 , 188, 108-120	8.4	31
971	(Al, Zn) ₃ Zr dispersoids assisted δ precipitation in an Al-Zn-Mg-Cu-Zr alloy. <i>Materialia</i> , 2020 , 10, 100641	3.2	15
970	Atomic Scale Origin of Metal Ion Release from Hip Implant Taper Junctions. <i>Advanced Science</i> , 2020 , 7, 1903008	13.6	7
969	Unveiling the Re effect in Ni-based single crystal superalloys. <i>Nature Communications</i> , 2020 , 11, 389	17.4	42
968	Compatible deformation and extra strengthening by heterogeneous nanolayer composites. <i>Scripta Materialia</i> , 2020 , 179, 30-35	5.6	10

967	Hydrogen resistance of a 1 GPa strong equiatomic CoCrNi medium entropy alloy. <i>Corrosion Science</i> , 2020 , 167, 108510	6.8	16
966	Review on Quantum Mechanically Guided Design of Ultra-Strong Metallic Glasses. <i>Frontiers in Materials</i> , 2020 , 7,	4	4
965	Multi-component chemo-mechanics based on transport relations for the chemical potential. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020 , 365, 113029	5.7	6
964	Formation of a 2D Meta-stable Oxide by Differential Oxidation of AgCu Alloys. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 23595-23605	9.5	7
963	Unveiling the mechanism of abnormal magnetic behavior of FeNiCoMnCu high-entropy alloys through a joint experimental-theoretical study. <i>Physical Review Materials</i> , 2020 , 4,	3.2	11
962	Role of magnetic ordering for the design of quinary TWIP-TRIP high entropy alloys. <i>Physical Review Materials</i> , 2020 , 4,	3.2	11
961	Grain boundary segregation, phase formation, and their influence on the coercivity of rapidly solidified SmFe11Ti hard magnetic alloys. <i>Physical Review Materials</i> , 2020 , 4,	3.2	3
960	Atomic Structure and Chemical Composition of Planar Fault Structures in Co-Base Superalloys. <i>Minerals, Metals and Materials Series</i> , 2020 , 920-928	0.3	0
959	Grain boundary segregation and precipitation in an Al-Zn-Mg-Cu alloy. <i>MATEC Web of Conferences</i> , 2020 , 326, 01004	0.3	
958	Microchemistry-dependent simulation of yield stress and flow stress in non-heat treatable Al sheet alloys. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2020 , 28, 035010	2	1
957	Moving cracks form white etching areas during rolling contact fatigue in bearings. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020 , 771, 138659	5.3	22
956	Electronic structure based design of thin film metallic glasses with superior fracture toughness. <i>Materials and Design</i> , 2020 , 186, 108327	8.1	11
955	Steels in additive manufacturing: A review of their microstructure and properties. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020 , 772, 138633	5.3	232
954	Control of thermally stable core-shell nano-precipitates in additively manufactured Al-Sc-Zr alloys. <i>Additive Manufacturing</i> , 2020 , 32, 100910	6.1	16
953	Joint investigation of strain partitioning and chemical partitioning in ferrite-containing TRIP-assisted steels. <i>Acta Materialia</i> , 2020 , 186, 374-388	8.4	18
952	Probing catalytic surfaces by correlative scanning photoemission electron microscopy and atom probe tomography. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 388-400	13	11
951	Revealing nano-chemistry at lattice defects in thermoelectric materials using atom probe tomography. <i>Materials Today</i> , 2020 , 32, 260-274	21.8	31
950	Yield strength increase of a CoCrNi medium entropy alloy by interstitial nitrogen doping at maintained ductility. <i>Scripta Materialia</i> , 2020 , 178, 391-397	5.6	58

949	Dependence of hydrogen embrittlement mechanisms on microstructure-driven hydrogen distribution in medium Mn steels. <i>Acta Materialia</i> , 2020 , 183, 313-328	8.4	42
948	On the atomic solute diffusional mechanisms during compressive creep deformation of a Co-Al-W-Ta single crystal superalloy. <i>Acta Materialia</i> , 2020 , 184, 86-99	8.4	23
947	On the assessment of creep damage evolution in nickel-based superalloys through correlative HR-EBSD and cECCI studies. <i>Acta Materialia</i> , 2020 , 185, 13-27	8.4	13
946	Could face-centered cubic titanium in cold-rolled commercially-pure titanium only be a Ti-hydride?. <i>Scripta Materialia</i> , 2020 , 178, 39-43	5.6	13
945	Interfacial nanophases stabilize nanotwins in high-entropy alloys. <i>Acta Materialia</i> , 2020 , 185, 218-232	8.4	27
944	Irreversible Structural Changes of Copper Hexacyanoferrate Used as a Cathode in Zn-Ion Batteries. <i>Chemistry - A European Journal</i> , 2020 , 26, 4917-4922	4.8	20
943	Nanocrystalline Sm-based 1:12 magnets. <i>Acta Materialia</i> , 2020 , 200, 652-658	8.4	10
942	In-situ synthesis via laser metal deposition of a lean Cu ₃ 4Cr _{0.6} Nb (at%) conductive alloy hardened by Cr nano-scale precipitates and by Laves phase micro-particles. <i>Acta Materialia</i> , 2020 , 197, 330-340	8.4	7
941	Chemical instability at chalcogenide surfaces impacts chalcopyrite devices well beyond the surface. <i>Nature Communications</i> , 2020 , 11, 3634	17.4	18
940	The impact of grain-scale strain localization on strain hardening of a high-Mn steel: Real-time tracking of the transition from the $\alpha \rightarrow \beta$ $\beta \rightarrow \epsilon$ transformation to twinning. <i>Acta Materialia</i> , 2020 , 197, 1231-1236 ²²	8.4	13
939	Effects of Mo on the mechanical behavior of β -strengthened Co-Ti-based alloys. <i>Acta Materialia</i> , 2020 , 197, 69-80	8.4	7
938	Crystal-Glass High-Entropy Nanocomposites with Near Theoretical Compressive Strength and Large Deformability. <i>Advanced Materials</i> , 2020 , 32, e2002619	24	22
937	Ultrastrong lightweight compositionally complex steels via dual-nanoprecipitation. <i>Science Advances</i> , 2020 , 6,	14.3	41
936	A new class of lightweight, stainless steels with ultra-high strength and large ductility. <i>Scientific Reports</i> , 2020 , 10, 12140	4.9	18
935	Reversion and re-aging of a peak aged Al-Zn-Mg-Cu alloy. <i>Scripta Materialia</i> , 2020 , 188, 269-273	5.6	17
934	Formation mechanism of ϵ -carbides and deformation behavior in Si-alloyed FeMnAlC lightweight steels. <i>Acta Materialia</i> , 2020 , 198, 258-270	8.4	20
933	Microscale plastic anisotropy of basal and pyramidal I slip in pure magnesium tested in shear. <i>Materialia</i> , 2020 , 14, 100932	3.2	5
932	Nanoglass-Nanocrystal Composite-a Novel Material Class for Enhanced Strength-Plasticity Synergy. <i>Small</i> , 2020 , 16, e2004400	11	3

931	Current Challenges and Opportunities in Microstructure-Related Properties of Advanced High-Strength Steels. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2020 , 51, 5517-5586	2.3	42
930	Phase boundary segregation-induced strengthening and discontinuous yielding in ultrafine-grained duplex medium-Mn steels. <i>Acta Materialia</i> , 2020 , 200, 389-403	8.4	26
929	Segregation-assisted spinodal and transient spinodal phase separation at grain boundaries. <i>Npj Computational Materials</i> , 2020 , 6,	10.9	11
928	Microstructure-based multiscale modeling of large strain plastic deformation by coupling a full-field crystal plasticity-spectral solver with an implicit finite element solver. <i>International Journal of Plasticity</i> , 2020 , 125, 97-117	7.6	22
927	Using spectral-based representative volume element crystal plasticity simulations to predict yield surface evolution during large scale forming simulations. <i>Journal of Materials Processing Technology</i> , 2020 , 277, 116449	5.3	13
926	Hough Transform Based Accurate Composition Extractions From Correlation Histograms in Atom Probe Tomography. <i>Microscopy and Microanalysis</i> , 2019 , 25, 324-325	0.5	1
925	Influence of phase decomposition on mechanical behavior of an equiatomic CoCuFeMnNi high entropy alloy. <i>Acta Materialia</i> , 2019 , 181, 25-35	8.4	28
924	Deformation-driven bidirectional transformation promotes bulk nanostructure formation in a metastable interstitial high entropy alloy. <i>Acta Materialia</i> , 2019 , 167, 23-39	8.4	46
923	The role of lattice defects, element partitioning and intrinsic heat effects on the microstructure in selective laser melted Ti-6Al-4V. <i>Acta Materialia</i> , 2019 , 167, 136-148	8.4	84
922	Unraveling the Metastability of C (n = 2-4) Clusters. <i>Journal of Physical Chemistry Letters</i> , 2019 , 10, 581-588	5.8	19
921	Reconstructing the austenite parent microstructure of martensitic steels: A case study for reduced-activation Eurofer steels. <i>Journal of Nuclear Materials</i> , 2019 , 516, 185-193	3.3	2
920	Invar effects in FeNiCo medium entropy alloys: From an Invar treasure map to alloy design. <i>Intermetallics</i> , 2019 , 111, 106520	3.5	17
919	Joint contribution of transformation and twinning to the high strength-ductility combination of a FeMnCoCr high entropy alloy at cryogenic temperatures. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019 , 759, 437-447	5.3	57
918	On the compositional partitioning during phase transformation in a binary ferromagnetic MnAl alloy. <i>Acta Materialia</i> , 2019 , 174, 227-236	8.4	17
917	High-entropy alloys. <i>Nature Reviews Materials</i> , 2019 , 4, 515-534	73.3	932
916	Quantification of solute deuterium in titanium deuteride by atom probe tomography with both laser pulsing and high-voltage pulsing: influence of the surface electric field. <i>New Journal of Physics</i> , 2019 , 21, 053025	2.9	18
915	Engineering atomic-level complexity in high-entropy and complex concentrated alloys. <i>Nature Communications</i> , 2019 , 10, 2090	17.4	102
914	Spectral Solvers for Crystal Plasticity and Multi-physics Simulations 2019 , 1-25		

913	Elemental re-distribution inside shear bands revealed by correlative atom-probe tomography and electron microscopy in a deformed metallic glass. <i>Scripta Materialia</i> , 2019 , 168, 14-18	5.6	16
912	Site-specific quasi in situ investigation of primary static recrystallization in a low carbon steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019 , 755, 295-306	5.3	9
911	Ti and its alloys as examples of cryogenic focused ion beam milling of environmentally-sensitive materials. <i>Nature Communications</i> , 2019 , 10, 942	17.4	54
910	Shape-preserving machining produces gradient nanolaminate medium entropy alloys with high strain hardening capability. <i>Acta Materialia</i> , 2019 , 170, 176-186	8.4	27
909	Role of elemental intermixing at the In ₂ S ₃ /CIGSe heterojunction deposited using reactive RF magnetron sputtering. <i>Solar Energy Materials and Solar Cells</i> , 2019 , 195, 367-375	6.4	15
908	Quantification Challenges for Atom Probe Tomography of Hydrogen and Deuterium in Zircaloy-4. <i>Microscopy and Microanalysis</i> , 2019 , 25, 481-488	0.5	22
907	Metastability alloy design. <i>MRS Bulletin</i> , 2019 , 44, 266-272	3.2	29
906	Strain hardening mechanisms during cold rolling of a high-Mn steel: Interplay between submicron defects and microtexture. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019 , 754, 636-649	5.3	13
905	Nonbasal Slip Systems Enable a Strong and Ductile Hexagonal-Close-Packed High-Entropy Phase. <i>Physical Review Letters</i> , 2019 , 122, 075502	7.4	54
904	Sputtering as a viable route for In ₂ S ₃ buffer layer deposition in high efficiency Cu(In,Ga)Se ₂ solar cells. <i>Energy Science and Engineering</i> , 2019 , 7, 478-487	3.4	11
903	Calibration of Atom Probe Tomography Reconstructions Through Correlation with Electron Micrographs. <i>Microscopy and Microanalysis</i> , 2019 , 25, 301-308	0.5	5
902	An Automated Computational Approach for Complete In-Plane Compositional Interface Analysis by Atom Probe Tomography. <i>Microscopy and Microanalysis</i> , 2019 , 25, 389-400	0.5	15
901	Thermodynamics of grain boundary segregation, interfacial spinodal and their relevance for nucleation during solid-solid phase transitions. <i>Acta Materialia</i> , 2019 , 168, 109-120	8.4	38
900	Quantification of Solute Deuterium in Titanium Deuteride by Atom Probe Tomography with Both Laser Pulsing and High-Voltage Pulsing: Influence of the Global and Local Surface Electric Field. <i>Microscopy and Microanalysis</i> , 2019 , 25, 2512-2513	0.5	
899	Segregation-driven grain boundary spinodal decomposition as a pathway for phase nucleation in a high-entropy alloy. <i>Acta Materialia</i> , 2019 , 178, 1-9	8.4	50
898	Deformation of Borides in Nickel-based Superalloys: a Study of Segregation at Dislocations. <i>Microscopy and Microanalysis</i> , 2019 , 25, 2538-2539	0.5	2
897	Carbon partitioning and microstructure evolution during tempering of an Fe-Ni-C steel. <i>Scripta Materialia</i> , 2019 , 172, 38-42	5.6	6
896	Density, distribution and nature of planar faults in silver antimony telluride for thermoelectric applications. <i>Acta Materialia</i> , 2019 , 178, 135-145	8.4	4

895	Atomic-scale grain boundary engineering to overcome hot-cracking in additively-manufactured superalloys. <i>Acta Materialia</i> , 2019 , 177, 209-221	8.4	83
894	Experimental and numerical study of mechanical properties of multi-phase medium-Mn TWIP-TRIP steel: influences of strain rate and phase constituents. <i>Acta Materialia</i> , 2019 , 177,	8.4	25
893	Macroscopic to nanoscopic in situ investigation on yielding mechanisms in ultrafine grained medium Mn steels: Role of the austenite-ferrite interface. <i>Acta Materialia</i> , 2019 , 178, 10-25	8.4	41
892	On the interaction of precipitates and tensile twins in magnesium alloys. <i>Acta Materialia</i> , 2019 , 178, 146-162	8.4	49
891	Quantitative affinity parameters of synthetic hydroxyapatite and enamel surfaces in vitro. <i>Bioinspired, Biomimetic and Nanobiomaterials</i> , 2019 , 8, 141-153	1.3	14
890	Light, strong and cost effective: Martensitic steels based on the Fe-Al-C system. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019 , 762, 138088	5.3	5
889	Atomistic phase field chemomechanical modeling of dislocation-solute-precipitate interaction in NiAlCo. <i>Acta Materialia</i> , 2019 , 175, 250-261	8.4	35
888	Application of Atom Probe Tomography to Complex Microstructures of Laser Additively Manufactured Samples. <i>Microscopy and Microanalysis</i> , 2019 , 25, 2514-2515	0.5	
887	An Integrated Workflow To Investigate Electrocatalytic Surfaces By Correlative X-ray Photoemission Spectroscopy, Scanning Photoemission Electron Microscopy and Atom Probe Tomography. <i>Microscopy and Microanalysis</i> , 2019 , 25, 306-307	0.5	0
886	Hydride Growth Mechanism in Zircaloy-4: Investigation of the Partitioning of Alloying Elements. <i>Microscopy and Microanalysis</i> , 2019 , 25, 2506-2507	0.5	
885	The through-process texture analysis of plate rolling by coupling finite element and fast Fourier transform crystal plasticity analysis. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2019 , 27, 085005	2	1
884	Strategies for improving the sustainability of structural metals. <i>Nature</i> , 2019 , 575, 64-74	50.4	106
883	Variable chemical decoration of extended defects in Cu-poor Cu ₂ ZnSnSe ₄ thin films. <i>Physical Review Materials</i> , 2019 , 3,	3.2	3
882	Misorientation-dependent solute enrichment at interfaces and its contribution to defect formation mechanisms during laser additive manufacturing of superalloys. <i>Physical Review Materials</i> , 2019 , 3,	3.2	20
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