Eugen Rabkin

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145 3,313 papers citations

32 h-index 51 g-index

152 ext. papers

3,868 ext. citations

7.1 avg, IF

5.65 L-index

#	Paper	IF	Citations
145	Magnesium based materials for hydrogen based energy storage: Past, present and future. International Journal of Hydrogen Energy, 2019 , 44, 7809-7859	6.7	264
144	Softening of nanostructured Alln and Allng alloys after severe plastic deformation. <i>Acta Materialia</i> , 2006 , 54, 3933-3939	8.4	148
143	The effect of ball milling and equal channel angular pressing on the hydrogen absorption/desorption properties of MgI.95 wt% ZnI.71 wt% Zr (ZK60) alloy. <i>Acta Materialia</i> , 2004 , 52, 405-414	8.4	143
142	Short-circuit diffusion in an ultrafine-grained copperdirconium alloy produced by equal channel angular pressing. <i>Acta Materialia</i> , 2007 , 55, 5968-5979	8.4	113
141	Size effect in compression of single-crystal gold microparticles. <i>Acta Materialia</i> , 2011 , 59, 5202-5215	8.4	111
140	Accelerated Diffusion and Phase Transformations in Co–Cu Alloys Driven by the Severe Plastic Deformation. <i>Materials Transactions</i> , 2012 , 53, 63-71	1.3	108
139	Improving hydrogen storage properties of magnesium based alloys by equal channel angular pressing. <i>International Journal of Hydrogen Energy</i> , 2009 , 34, 6320-6324	6.7	90
138	The effect of equal channel angular pressing on hydrogen storage properties of a eutectic Mg N i alloy. <i>Journal of Alloys and Compounds</i> , 2007 , 436, 99-106	5.7	81
137	Shape Memory: Self-Healing and Shape Memory Effects in Gold Microparticles through the Defects-Mediated Diffusion (Adv. Sci. 8/2017). <i>Advanced Science</i> , 2017 , 4,	13.6	78
136	Onset of plasticity in gold nanopillar compression. <i>Nano Letters</i> , 2007 , 7, 101-7	11.5	71
135	Nanohardness of molybdenum in the vicinity of grain boundaries and triple junctions. <i>Acta Materialia</i> , 2008 , 56, 5640-5652	8.4	61
134	Grain boundary grooving in thin films revisited: The role of interface diffusion. <i>Acta Materialia</i> , 2014 , 69, 386-396	8.4	60
133	Anisotropic hole growth during solid-state dewetting of single-crystal Auffe thin films. <i>Acta Materialia</i> , 2012 , 60, 3047-3056	8.4	59
132	Mechanisms of solid-state dewetting of thin Au films in different annealing atmospheres. <i>Acta Materialia</i> , 2015 , 83, 91-101	8.4	58
131	The inclination dependence of gold tracer diffusion along a B twin grain boundary in copper. <i>Acta Materialia</i> , 1999 , 47, 1231-1239	8.4	56
130	Deformation-driven formation of equilibrium phases in the CuNi alloys. <i>Journal of Materials Science</i> , 2012 , 47, 360-367	4.3	51
129	Theory of the Kirkendall effect during grain boundary interdiffusion. <i>Acta Materialia</i> , 2011 , 59, 1389-13	89 9 .4	50

128	Solid-state dewetting of thin iron films on sapphire substrates controlled by grain boundary diffusion. <i>Acta Materialia</i> , 2013 , 61, 3148-3156	8.4	49
127	On the grain size dependent solute and particle drag. <i>Scripta Materialia</i> , 2000 , 42, 1199-1206	5.6	47
126	Correlation between grain boundary energy and geometry in Ni-rich NiAl. Acta Materialia, 2005, 53, 379	58.3 /80	546
125	Hydrogen storage properties of as-synthesized and severely deformed magnesium [multiwall carbon nanotubes composite. <i>International Journal of Hydrogen Energy</i> , 2010 , 35, 5471-5478	6.7	43
124	Grain growth in thin metallic films. <i>Acta Materialia</i> , 2001 , 49, 673-681	8.4	43
123	Inter-Nanoparticle Bonds in Agglomerates Studied by Nanoindentation. <i>Advanced Materials</i> , 2006 , 18, 2028-2030	24	42
122	Nickel nanoparticles set a new record of strength. <i>Nature Communications</i> , 2018 , 9, 4102	17.4	42
121	. Journal of Materials Science, 2001 , 9, 55-63		41
120	Core(Fe)-shell(Au) nanoparticles obtained from thin Fe/Au bilayers employing surface segregation. <i>ACS Nano</i> , 2014 , 8, 10687-93	16.7	40
119	A scanning force microscopy study of grain boundary energy in copper subjected to equal channel angular pressing. <i>Acta Materialia</i> , 2007 , 55, 6681-6689	8.4	39
118	Grain boundary self-diffusion in ⊞ron of different purity: effect of dislocation enhanced diffusion. <i>International Journal of Materials Research</i> , 2004 , 95, 945-952		39
117	ETCP-polylactide composite scaffolds with high strength and enhanced permeability prepared by a modified salt leaching method. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2014 , 32, 89-	98 ¹	37
116	Hydrogen storage and thermal transport properties of pelletized porous Mg-2 wt.% multiwall carbon nanotubes and Mg-2 wt.% graphite composites. <i>International Journal of Hydrogen Energy</i> , 2016 , 41, 14461-14474	6.7	35
115	Size and shape evolution of faceted bicrystal nanoparticles of gold on sapphire. <i>Acta Materialia</i> , 2011 , 59, 2872-2881	8.4	35
114	Anomalous diffusion along metal/ceramic interfaces. <i>Nature Communications</i> , 2018 , 9, 5251	17.4	33
113	3D Imaging of a Dislocation Loop at the Onset of Plasticity in an Indented Nanocrystal. <i>Nano Letters</i> , 2017 , 17, 6696-6701	11.5	32
112	Solid state dewetting and stress relaxation in a thin single crystalline Ni film on sapphire. <i>Acta Materialia</i> , 2014 , 74, 30-38	8.4	32
111	Mg3Cd: A model alloy for studying the destabilization of magnesium hydride. <i>International Journal of Hydrogen Energy</i> , 2012 , 37, 10724-10732	6.7	30

110	Effect of grain boundary faceting on kinetics of grain growth and microstructure evolution. <i>Journal of Materials Science</i> , 2005 , 40, 875-879	4.3	28
109	Effect of rapid solidification on hydrogen solubility in Mg-rich MgNi alloys. <i>International Journal of Hydrogen Energy</i> , 2011 , 36, 5388-5399	6.7	27
108	Phase transformations in Au(Fe) nano- and microparticles obtained by solid state dewetting of thin Aufle bilayer films. <i>Acta Materialia</i> , 2013 , 61, 5130-5143	8.4	26
107	Whiskers growth in thin passivated Au films. <i>Acta Materialia</i> , 2018 , 149, 154-163	8.4	25
106	On the role of Fe in the growth of single crystalline heteroepitaxial Au thin films on sapphire. <i>Acta Materialia</i> , 2013 , 61, 4113-4126	8.4	25
105	Effects of focused-ion-beam irradiation and prestraining on the mechanical properties of FCC Au microparticles on a sapphire substrate. <i>Journal of Materials Research</i> , 2011 , 26, 1653-1661	2.5	25
104	Hydrogen storage and spillover kinetics in carbon nanotube-Mg composites. <i>International Journal of Hydrogen Energy</i> , 2016 , 41, 2814-2819	6.7	24
103	The role of grain boundary sliding in solid-state dewetting of thin polycrystalline films. <i>Scripta Materialia</i> , 2014 , 82, 33-36	5.6	24
102	Surface Diffusion Controlled Formation of Nickel Silicides in Silicon Nanowires. <i>Journal of Electronic Materials</i> , 2010 , 39, 365-370	1.9	24
101	Hydrogen storage kinetics: The graphene nanoplatelet size effect. <i>Carbon</i> , 2018 , 130, 369-376	10.4	23
100	Mechano-stimulated equilibration of gold nanoparticles on sapphire. Scripta Materialia, 2015, 107, 149-	15.0	22
99	The effect of evaporation on size and shape evolution of faceted gold nanoparticles on sapphire. <i>Acta Materialia</i> , 2012 , 60, 261-268	8.4	22
98	Effect of recrystallization on diffusion in ultrafine-grained Ni. Acta Materialia, 2014, 69, 314-325	8.4	20
97	Effect of equal channel angular pressing (ECAP) on hydrogen storage properties of commercial magnesium alloy AZ61. <i>International Journal of Hydrogen Energy</i> , 2018 , 43, 4371-4380	6.7	19
96	Improving hydrogen storage performance of AZ31 Mg alloy by equal channel angular pressing and additives. <i>Journal of Alloys and Compounds</i> , 2018 , 743, 437-447	5.7	19
95	Grain growth in porous two-dimensional nanocrystalline materials. <i>Journal of Materials Science</i> , 2008 , 43, 5068-5075	4.3	19
94	Scanning probe microscopy study of grain boundary migration in NiAl. <i>Acta Materialia</i> , 2004 , 52, 4953-49	95.2	19
93	Ultra-Fast Atomic Transport in Severely Deformed Materials Pathway to Applications?. <i>Advanced Engineering Materials</i> , 2010 , 12, 779-785	3.5	18

92	Diffusion along the Grain Boundaries in Crystals with Dislocations. <i>Journal of Materials Science</i> , 1998 , 6, 197-203		18
91	Cross-Split of Dislocations: An Athermal and Rapid Plasticity Mechanism. <i>Scientific Reports</i> , 2016 , 6, 259	6.6 .9	18
90	Plastic flow and microstructural instabilities during high-pressure torsion of Cu/ZnO composites. <i>Materials Characterization</i> , 2018 , 145, 389-401	3.9	18
89	Grain boundary grooving in molybdenum bicrystals. <i>Journal of Materials Science</i> , 2006 , 41, 5151-5160	4.3	16
88	Grain boundary migration and grooving in thin 3-D systems. Acta Materialia, 2014, 65, 194-206	8.4	15
87	Improving the thermal stability of nickel thin films on sapphire by a minor alloying addition of gold. <i>Applied Surface Science</i> , 2019 , 484, 1070-1079	6.7	14
86	Self-Healing and Shape Memory Effects in Gold Microparticles through the Defects-Mediated Diffusion. <i>Advanced Science</i> , 2017 , 4, 1700159	13.6	14
85	Chemically-induced solid-state dewetting of thin Au films. <i>Acta Materialia</i> , 2017 , 129, 300-311	8.4	13
84	On the nucleation of pores during the nanoscale Kirkendall effect. <i>Materials Letters</i> , 2015 , 161, 508-510	3.3	13
83	Tuning Mg hydriding kinetics with nanocarbons. <i>Journal of Alloys and Compounds</i> , 2017 , 725, 616-622	5.7	13
82	Theory of nanoindentation creep controlled by interfacial diffusion. Scripta Materialia, 2003, 48, 1475-1	486	13
81	Tuning the thermal conductivity of hydrogenated porous magnesium hydride composites with the aid of carbonaceous additives. <i>International Journal of Hydrogen Energy</i> , 2017 , 42, 22395-22405	6.7	12
80	A model of Kirkendall hollowing of coreShell nanowires and nanoparticles controlled by short-circuit diffusion. <i>Acta Materialia</i> , 2015 , 83, 180-186	8.4	12
79	Solid state dewetting of polycrystalline Mo film on sapphire. <i>Acta Materialia</i> , 2017 , 139, 51-61	8.4	12
78	Particle rearrangement during sintering of heterogeneous powder mixtures: A combined experimental and theoretical study. <i>Acta Materialia</i> , 2012 , 60, 123-130	8.4	12
77	Grain boundary interdiffusion and stresses in thin polycrystalline films. <i>Journal of Materials Science</i> , 2011 , 46, 4343-4348	4.3	12
76	Encapsulation by segregation [A multifaceted approach to gold segregation in iron particles on sapphire. <i>Acta Materialia</i> , 2016 , 102, 342-351	8.4	11
75	The equilibrium crystal shape of iron. <i>Scripta Materialia</i> , 2016 , 123, 109-112	5.6	11

74	The role of interface diffusion in solid state dewetting of thin films: The nano-marker experiment. <i>Acta Materialia</i> , 2019 , 177, 121-130	8.4	11
73	A model of grain boundary diffusion in polycrystals with evolving microstructure. <i>International Journal of Materials Research</i> , 2009 , 100, 530-535	0.5	11
72	The Grain Boundary Wetting Phenomena in the Ti-Containing High-Entropy Alloys: A Review. <i>Metals</i> , 2021 , 11, 1881	2.3	11
71	Effect of SPD Processing on the Strength and Conductivity of AA6061 Alloy. <i>Advanced Engineering Materials</i> , 2019 , 21, 1801370	3.5	10
70	Grain growth and solid-state dewetting of Bi-Crystal Ni-Fe thin films on sapphire. <i>Acta Materialia</i> , 2019 , 168, 237-249	8.4	10
69	Generation and healing of porosity in high purity copper by high-pressure torsion. <i>Materials Characterization</i> , 2018 , 145, 1-9	3.9	10
68	The effect of defects on strength of gold microparticles. Scripta Materialia, 2019, 171, 83-86	5.6	10
67	Modeling of aluminum via filling by forcefill. <i>Journal of Applied Physics</i> , 2003 , 93, 5812-5815	2.5	10
66	Metal hetero-diffusion along the metal-ceramic interfaces: A case study of Au diffusion along the Ni-sapphire interface. <i>Acta Materialia</i> , 2020 , 186, 242-249	8.4	10
65	Phase Transformations in Au-Fe Particles and Thin Films: Size Effects at the Micro- and Nano-scales. <i>Jom</i> , 2016 , 68, 1335-1342	2.1	10
64	The role of surface coarsening and sintering during thermal decomposition of titanium hydride. <i>International Journal of Hydrogen Energy</i> , 2019 , 44, 6045-6054	6.7	9
63	Persistence of ultrafast atomic diffusion paths in recrystallizing ultrafine grained Ni. <i>Scripta Materialia</i> , 2015 , 101, 91-94	5.6	9
62	Sintering of spherical particles of two immiscible phases controlled by surface and interphase boundary diffusion. <i>Acta Materialia</i> , 2013 , 61, 2607-2616	8.4	9
61	Pseudoelasticity of Metal Nanoparticles Is Caused by Their Ultrahigh Strength. <i>Advanced Functional Materials</i> , 2020 , 30, 1807554	15.6	9
60	Giant shape- and size-dependent compressive strength of molybdenum nano- and microparticles. <i>Acta Materialia</i> , 2020 , 198, 72-84	8.4	9
59	Formation of hollow gold-silver nanoparticles through the surface diffusion induced bulk intermixing. <i>Acta Materialia</i> , 2016 , 117, 188-196	8.4	9
58	Hydrogenation effect on microstructure and mechanical properties of Mg-Gd-Y-Zn-Zr alloys. <i>Materials Science & amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018 , 719, 171-177	5.3	8
57	Metastable porosity in thin polycrystalline films. <i>Scripta Materialia</i> , 2013 , 69, 764-767	5.6	8

56	Sintering of fully faceted crystalline particles. International Journal of Materials Research, 2010, 101, 75-	83 5	8
55	Nanohardness and crack resistance of HTS YBCO thin films. <i>IEEE Transactions on Applied Superconductivity</i> , 2005 , 15, 3585-3588	1.8	8
54	Stabilization of ultrafine-grained microstructure in high-purity copper by gas-filled pores produced by severe plastic deformation. <i>Scripta Materialia</i> , 2020 , 178, 29-33	5.6	8
53	The effect of bismuth on microstructure evolution of ultrafine grained copper. <i>Materials Letters</i> , 2017 , 199, 156-159	3.3	7
52	Ultrafine-Grained Magnesium Alloys for Hydrogen Storage Obtained by Severe Plastic Deformation. <i>Frontiers in Materials</i> , 2019 , 6,	4	7
51	Grain boundaries effects on hole morphology and growth during solid state dewetting of thin films. <i>Scripta Materialia</i> , 2017 , 134, 115-118	5.6	6
50	Recovery, recrystallization and diffusion in cold-rolled Ni. <i>International Journal of Materials Research</i> , 2015 , 106, 554-564	0.5	6
49	Grain growth inhibition in thin nanocrystalline Au films by grain boundary diffusion and oxidation of Ti. <i>Acta Materialia</i> , 2013 , 61, 529-539	8.4	6
48	Generation of Electrical Currents and Magnetic Fields by Grain Boundary Motion. <i>Journal of Materials Science</i> , 2002 , 10, 279-285		6
47	Theory of Triple Junctions Mobility in Crystals with Impurities. <i>Journal of Materials Science</i> , 1999 , 7, 297	-305	6
46	Architectured hybrid conductors: Aluminium with embedded copper helix. <i>Materials and Design</i> , 2020 , 187, 108398	8.1	6
45	The kinetics of hollowing of AgAu coreBhell nanowhiskers controlled by short-circuit diffusion. <i>Acta Materialia</i> , 2015 , 82, 145-154	8.4	5
44	Grain growth stagnation in thin films due to shear-coupled grain boundary migration. <i>Scripta Materialia</i> , 2020 , 180, 83-87	5.6	5
43	Multi-wavelength Bragg coherent X-ray diffraction imaging of Au particles. <i>Journal of Applied Crystallography</i> , 2020 , 53, 170-177	3.8	5
42	Grain Boundary Wetting by a Second Solid Phase in the High Entropy Alloys: A Review <i>Materials</i> , 2021 , 14,	3.5	5
41	The effect of stress on surface and interface segregation in thin alloy films on inert substrates. <i>Journal of Materials Science</i> , 2020 , 55, 3629-3635	4.3	5
40	Engineering of hollow AlAu2 nanoparticles on sapphire by solid state dewetting and oxidation of Al. <i>Materials and Design</i> , 2019 , 165, 107557	8.1	5
39	Gradient bandgap narrowing in severely deformed ZnO nanoparticles. <i>Materials Research Letters</i> , 2021 , 9, 58-64	7.4	5

38	Relative grain boundary energies in ultrafine grain Ni obtained by high pressure torsion. <i>Scripta Materialia</i> , 2020 , 182, 90-93	5.6	4
37	Structure Refinement and Fragmentation of Precipitates under Severe Plastic Deformation: A Review <i>Materials</i> , 2022 , 15,	3.5	4
36	Hillocks formation in the Cr-doped Ni thin films: growth mechanisms and the nano-marker experiment. <i>Journal of Materials Science</i> , 2020 , 55, 2588-2603	4.3	4
35	Faceting of Twin Grain Boundaries in High-Purity Copper Subjected to High Pressure Torsion. <i>Advanced Engineering Materials</i> , 2020 , 22, 1900589	3.5	4
34	Interdiffusion in bimetallic Auffe nanowhiskers controlled by interface mobility. <i>Acta Materialia</i> , 2020 , 197, 137-145	8.4	4
33	Continuous scanning for Bragg coherent X-ray imaging. Scientific Reports, 2020, 10, 12760	4.9	4
32	A convolutional neural network for defect classification in Bragg coherent X-ray diffraction. <i>Npj Computational Materials</i> , 2021 , 7,	10.9	4
31	The Effect of a Small Copper Addition on the Electrical Conductivity of Aluminum. <i>Advanced Engineering Materials</i> , 2020 , 22, 2000058	3.5	3
30	Coherency strain reduction in particles on a substrate as a driving force for solute segregation. <i>Scripta Materialia</i> , 2016 , 122, 89-92	5.6	3
29	Capillary-driven interdiffusion along interphase boundaries in solids. <i>Philosophical Magazine</i> , 2013 , 93, 2033-2043	1.6	3
28	Thermal stability and strength of polycrystalline nanowires. <i>Materialwissenschaft Und Werkstofftechnik</i> , 2005 , 36, 505-508	0.9	3
27	Structure and composition of laser produced WC alloyed layers on M2 high-speed steel. <i>Journal of Materials Science Letters</i> , 2001 , 20, 1917-1920		3
26	Grain Boundary Wetting Phenomena in High Entropy Alloys Containing Nitrides, Carbides, Borides, Silicides, and Hydrogen: A Review. <i>Crystals</i> , 2021 , 11, 1540	2.3	3
25	Annealing-induced recovery of indents in thin Au(Fe) bilayer films. <i>Beilstein Journal of Nanotechnology</i> , 2016 , 7, 2088-2099	3	3
24	The effect of surface contact conditions on grain boundary interdiffusion in a semi-infinite bicrystal. <i>Philosophical Magazine</i> , 2014 , 94, 3398-3412	1.6	2
23	Oxidation induced cubic-tetragonal phase transformation in titanium hydride powders. International Journal of Hydrogen Energy, 2020, 45, 25043-25053	6.7	2
22	The impact of alloying on defect-free nanoparticles exhibiting softer but tougher behavior. <i>Nature Communications</i> , 2021 , 12, 2515	17.4	2
21	Twin boundary migration in an individual platinum nanocrystal during catalytic CO oxidation. Nature Communications, 2021 , 12, 5385	17.4	2

20	Self-Healing of Crystal Voids in Double Perovskite Nanocrystals Is Related to Surface Passivation. <i>Advanced Functional Materials</i> ,2110421	15.6	2	
19	Thermodynamic model of porosity stabilization in polycrystalline solids. <i>Scripta Materialia</i> , 2018 , 156, 75-79	5.6	1	
18	Diffusion-induced recrystallization during the early stages of solid-state dewetting of Ni-Pt bilayers. <i>Acta Materialia</i> , 2022 , 225, 117537	8.4	1	
17	The role of defects in solid state dewetting of ultrathin Ag film on Si(557). <i>Scripta Materialia</i> , 2021 , 194, 113655	5.6	1	
16	Size and shape effects on the strength of platinum nanoparticles. <i>Journal of Materials Science</i> , 2021 , 56, 18300-18312	4.3	1	
15	Solid-state dewetting of thin Au films on oxidized surface of biomedical TiAlV alloy. <i>Acta Materialia</i> , 2022 , 117919	8.4	1	
14	Pores shrinkage and growth in polycrystalline hollow nanoparticles and nanotubes. <i>Scripta Materialia</i> , 2020 , 180, 93-96	5.6	0	
13	Thermal stability of polycrystalline nanowires. International Journal of Materials Research, 2022, 96, 11	19-:1512	30	
12	Plastic Forming of Metals at the Nanoscale: Interdiffusion-Induced Bending of Bimetallic Nanowhiskers. <i>ACS Nano</i> , 2020 , 14, 11691-11699	16.7	О	
11	Microstructure evolution of thin nickel films with embedded chromium oxide nanoparticles. <i>Acta Materialia</i> , 2020 , 201, 561-571	8.4	0	
10	Simultaneous Multi-Bragg Peak Coherent X-ray Diffraction Imaging. <i>Crystals</i> , 2021 , 11, 312	2.3	0	
9	In-situ force measurement during nano-indentation combined with Laue microdiffraction. <i>Nano Select</i> , 2021 , 2, 99-106	3.1	0	
8	When More Is Less: Plastic Weakening of Single Crystalline Ag Nanoparticles by the Polycrystalline Au Shell. <i>ACS Nano</i> , 2021 , 15, 14061-14070	16.7	0	
7	Solid state dewetting of Ni-Co bilayers on sapphire during slow heating and cooling. <i>Acta Materialia</i> , 2022 , 233, 117984	8.4	0	
6	Grain Boundary Diffusion and Segregation in the Solid State Phase Transformations. <i>Materials Research Society Symposia Proceedings</i> , 1998 , 527, 255			
5	Solid state infiltration of porous steel with aluminium by the forcefill process. <i>International Journal of Materials Research</i> , 2022 , 96, 1193-1195	0.5		
4	Grain boundary grooving in a bicrystal with passivation coating. <i>Continuum Mechanics and Thermodynamics</i> , 2021 , 33, 2431-2451	3.5		
3	Thermodynamics and kinetics of surface/interface segregation in the stressed ultrathin alloy film on inert substrate. <i>Applied Surface Science</i> , 2021 , 562, 150050	6.7		

Grain boundary self-diffusion in \exists ron of different purity: effect of dislocation enhanced diffusion.

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