Eugen Rabkin

List of Publications by Year
in descending order

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150	4,339	109137	133063
papers	citations	35 h-index	59 g-index

152	152	152	3439
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Magnesium based materials for hydrogen based energy storage: Past, present and future. International Journal of Hydrogen Energy, 2019, 44, 7809-7859.	3.8	460
2	The effect of ball milling and equal channel angular pressing on the hydrogen absorption/desorption properties of Mgâ€“4.95 wt% Znâ€“0.71 wt% Zr (ZK60) alloy. Acta Materialia, 2004, 52, 405-414.	3.8	171
3	Softening of nanostructured Alâ€“Zn and Alâ€“Mg alloys after severe plastic deformation. Acta Materialia, 2006, 54, 3933-3939.	3.8	161
4	Size effect in compression of single-crystal gold microparticles. Acta Materialia, 2011, 59, 5202-5215.	3.8	136
5	Short-circuit diffusion in an ultrafine-grained copperâ€“zirconium alloy produced by equal channel angular pressing. Acta Materialia, 2007, 55, 5968-5979.	3.8	126
6	Accelerated Diffusion and Phase Transformations in Co–Cu Alloys Driven by the Severe Plastic Deformation. Materials Transactions, 2012, 53, 63-71.	0.4	117
7	Improving hydrogen storage properties of magnesium based alloys by equal channel angular pressing. International Journal of Hydrogen Energy, 2009, 34, 6320-6324.	3.8	103
8	The effect of equal channel angular pressing on hydrogen storage properties of a eutectic Mgâ€“Ni alloy. Journal of Alloys and Compounds, 2007, 436, 99-106.	2.8	97
9	Onset of Plasticity in Gold Nanopillar Compression. Nano Letters, 2007, 7, 101-107.	4.5	77
10	Grain boundary grooving in thin films revisited: The role of interface diffusion. Acta Materialia, 2014, 69, 386-396.	3.8	75
11	Nickel nanoparticles set a new record of strength. Nature Communications, 2018, 9, 4102.	5.8	74
12	Mechanisms of solid-state dewetting of thin Au films in different annealing atmospheres. Acta Materialia, 2015, 83, 91-101.	3.8	72
13	The inclination dependence of gold tracer diffusion along a Î£3 twin grain boundary in copper. Acta Materialia, 1999, 47, 1231-1239.	3.8	67
14	Nanohardness of molybdenum in the vicinity of grain boundaries and triple junctions. Acta Materialia, 2008, 56, 5640-5652.	3.8	67
15	Anisotropic hole growth during solid-state dewetting of single-crystal Auâ€“Fe thin films. Acta Materialia, 2012, 60, 3047-3056.	3.8	66
16	Deformation-driven formation of equilibrium phases in the Cuâ€“Ni alloys. Journal of Materials Science, 2012, 47, 360-367.	1.7	63
17	Correlation between grain boundary energy and geometry in Ni-rich NiAl. Acta Materialia, 2005, 53, 3795-3805.	3.8	58
18	Theory of the Kirkendall effect during grain boundary interdiffusion. Acta Materialia, 2011, 59, 1389-1399.	3.8	58

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19	Solid-state dewetting of thin iron films on sapphire substrates controlled by grain boundary diffusion. Acta Materialia, 2013, 61, 3148-3156.	3.8	54
20	Hydrogen storage and thermal transport properties of pelletized porous Mg-2 wt.% multiwall carbon nanotubes and Mg-2 wt.% graphite composites. International Journal of Hydrogen Energy, 2016, 41, 14461-14474.	3.8	54
21	The Grain Boundary Wetting Phenomena in the Ti-Containing High-Entropy Alloys: A Review. Metals, 2021, 11, 1881.	1.0	54
22	A scanning force microscopy study of grain boundary energy in copper subjected to equal channel angular pressing. Acta Materialia, 2007, 55, 6681-6689.	3.8	51
23	Anomalous diffusion along metal/ceramic interfaces. Nature Communications, 2018, 9, 5251.	5.8	51
24	Hydrogen storage properties of as-synthesized and severely deformed magnesium â€“ multiwall carbon nanotubes composite. International Journal of Hydrogen Energy, 2010, 35, 5471-5478.	3.8	50
25	Î²-TCPâ€“polylactide composite scaffolds with high strength and enhanced permeability prepared by a modified salt leaching method. Journal of the Mechanical Behavior of Biomedical Materials, 2014, 32, 89-98.	1.5	50
26	On the grain size dependent solute and particle drag. Scripta Materialia, 2000, 42, 1199-1206.	2.6	49
27	Grain growth in thin metallic films. Acta Materialia, 2001, 49, 673-681.	3.8	49
28	Title is missing!. Journal of Materials Science, 2001, 9, 55-63.	1.2	45
29	Core(Fe)â€“Shell(Au) Nanoparticles Obtained from Thin Fe/Au Bilayers Employing Surface Segregation. ACS Nano, 2014, 8, 10687-10693.	7.3	45
30	Grain boundary self-diffusion in Î±-iron of different purity: effect of dislocation enhanced diffusion. International Journal of Materials Research, 2004, 95, 945-952.	0.8	44
31	Inter-Nanoparticle Bonds in Agglomerates Studied by Nanoindentation. Advanced Materials, 2006, 18, 2028-2030.	11.1	42
32	Size and shape evolution of faceted bicrystal nanoparticles of gold on sapphire. Acta Materialia, 2011, 59, 2872-2881.	3.8	38
33	Solid state dewetting and stress relaxation in a thin single crystalline Ni film on sapphire. Acta Materialia, 2014, 74, 30-38.	3.8	38
34	Mg3Cd: A model alloy for studying the destabilization of magnesium hydride. International Journal of Hydrogen Energy, 2012, 37, 10724-10732.	3.8	37
35	3D Imaging of a Dislocation Loop at the Onset of Plasticity in an Indented Nanocrystal. Nano Letters, 2017, 17, 6696-6701.	4.5	37
36	Whiskers growth in thin passivated Au films. Acta Materialia, 2018, 149, 154-163.	3.8	37

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37	Effect of equal channel angular pressing (ECAP) on hydrogen storage properties of commercial magnesium alloy AZ61. International Journal of Hydrogen Energy, 2018, 43, 4371-4380.	3.8	35
38	Effect of grain boundary faceting on kinetics of grain growth and microstructure evolution. Journal of Materials Science, 2005, 40, 875-879.	1.7	34
39	Effect of rapid solidification on hydrogen solubility in Mg-rich Mgâ€“Ni alloys. International Journal of Hydrogen Energy, 2011, 36, 5388-5399.	3.8	34
40	Improving hydrogen storage performance of AZ31 Mg alloy by equal channel angular pressing and additives. Journal of Alloys and Compounds, 2018, 743, 437-447.	2.8	34
41	Hydrogen storage and spillover kinetics in carbon nanotube-Mg composites. International Journal of Hydrogen Energy, 2016, 41, 2814-2819.	3.8	32
42	Hydrogen storage kinetics: The graphene nanoplatelet size effect. Carbon, 2018, 130, 369-376.	5.4	32
43	Phase transformations in Au(Fe) nano- and microparticles obtained by solid state dewetting of thin Auâ€“Fe bilayer films. Acta Materialia, 2013, 61, 5130-5143.	3.8	30
44	Effects of focused-ion-beam irradiation and prestraining on the mechanical properties of FCC Au microparticles on a sapphire substrate. Journal of Materials Research, 2011, 26, 1653-1661.	1.2	29
45	Magnesium- and intermetallic alloys-based hydrides for energy storage: modelling, synthesis and properties. Progress in Energy, 2022, 4, 032007.	4.6	29
46	Surface Diffusion Controlled Formation of Nickel Silicides in Silicon Nanowires. Journal of Electronic Materials, 2010, 39, 365-370.	1.0	27
47	On the role of Fe in the growth of single crystalline heteroepitaxial Au thin films on sapphire. Acta Materialia, 2013, 61, 4113-4126.	3.8	27
48	The role of grain boundary sliding in solid-state dewetting of thin polycrystalline films. Scripta Materialia, 2014, 82, 33-36.	2.6	26
49	Effect of recrystallization on diffusion in ultrafine-grained Ni. Acta Materialia, 2014, 69, 314-325.	3.8	26
50	Mechano-stimulated equilibration of gold nanoparticles on sapphire. Scripta Materialia, 2015, 107, 149-152.	2.6	26
51	Giant shape- and size-dependent compressive strength of molybdenum nano- and microparticles. Acta Materialia, 2020, 198, 72-84.	3.8	26
52	Diffusion along the Grain Boundaries in Crystals with Dislocations. Journal of Materials Science, 1998, 6, 197-203.	1.2	25
53	Ultraâ€Fast Atomic Transport in Severely Deformed Materialsâ€”A Pathway to Applications?. Advanced Engineering Materials, 2010, 12, 779-785.	1.6	24
54	The effect of evaporation on size and shape evolution of faceted gold nanoparticles on sapphire. Acta Materialia, 2012, 60, 261-268.	3.8	24

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55	Tuning the thermal conductivity of hydrogenated porous magnesium hydride composites with the aid of carbonaceous additives. International Journal of Hydrogen Energy, 2017, 42, 22395-22405.	3.8	24
56	Grain boundary grooving in molybdenum bicrystals. Journal of Materials Science, 2006, 41, 5151-5160.	1.7	23
57	Plastic flow and microstructural instabilities during high-pressure torsion of Cu/ZnO composites. Materials Characterization, 2018, 145, 389-401.	1.9	23
58	Grain Boundary Wetting by a Second Solid Phase in the High Entropy Alloys: A Review. Materials, 2021, 14, 7506.	1.3	23
59	Scanning probe microscopy study of grain boundary migration in NiAl. Acta Materialia, 2004, 52, 4953-4959.	3.8	20
60	Chemically-induced solid-state dewetting of thin Au films. Acta Materialia, 2017, 129, 300-311.	3.8	20
61	Tuning Mg hydriding kinetics with nanocarbons. Journal of Alloys and Compounds, 2017, 725, 616-622.	2.8	20
62	Structure Refinement and Fragmentation of Precipitates under Severe Plastic Deformation: A Review. Materials, 2022, 15, 601.	1.3	20
63	Grain growth in porous two-dimensional nanocrystalline materials. Journal of Materials Science, 2008, 43, 5068-5075.	1.7	19
64	Cross-Split of Dislocations: An Athermal and Rapid Plasticity Mechanism. Scientific Reports, 2016, 6, 25966.	1.6	19
65	Selfâ€Healing and Shape Memory Effects in Gold Microparticles through the Defectsâ€Mediated Diffusion. Advanced Science, 2017, 4, 1700159.	5.6	19
66	A model of Kirkendall hollowing of coreâ€“shell nanowires and nanoparticles controlled by short-circuit diffusion. Acta Materialia, 2015, 83, 180-186.	3.8	17
67	Ultrafine-Grained Magnesium Alloys for Hydrogen Storage Obtained by Severe Plastic Deformation. Frontiers in Materials, 2019, 6, .	1.2	17
68	Improving the thermal stability of nickel thin films on sapphire by a minor alloying addition of gold. Applied Surface Science, 2019, 484, 1070-1079.	3.1	17
69	Grain growth and solid-state dewetting of Bi-Crystal Ni-Fe thin films on sapphire. Acta Materialia, 2019, 168, 237-249.	3.8	17
70	Grain boundary migration and grooving in thin 3-D systems. Acta Materialia, 2014, 65, 194-206.	3.8	16
71	On the nucleation of pores during the nanoscale Kirkendall effect. Materials Letters, 2015, 161, 508-510.	1.3	16
72	The equilibrium crystal shape of iron. Scripta Materialia, 2016, 123, 109-112.	2.6	16

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73	The role of interface diffusion in solid state dewetting of thin films: The nano-marker experiment. Acta Materialia, 2019, 177, 121-130.	3.8	16
74	Metal hetero-diffusion along the metal-ceramic interfaces: A case study of Au diffusion along the Ni-sapphire interface. Acta Materialia, 2020, 186, 242-249.	3.8	16
75	The impact of alloying on defect-free nanoparticles exhibiting softer but tougher behavior. Nature Communications, 2021, 12, 2515.	5.8	16
76	Persistence of ultrafast atomic diffusion paths in recrystallizing ultrafine grained Ni. Scripta Materialia, 2015, 101, 91-94.	2.6	15
77	Solid state dewetting of polycrystalline Mo film on sapphire. Acta Materialia, 2017, 139, 51-61.	3.8	15
78	Theory of nanoindentation creep controlled by interfacial diffusion. Scripta Materialia, 2003, 48, 1475-1481.	2.6	14
79	Generation and healing of porosity in high purity copper by high-pressure torsion. Materials Characterization, 2018, 145, 1-9.	1.9	14
80	The effect of defects on strength of gold microparticles. Scripta Materialia, 2019, 171, 83-86.	2.6	14
81	Effect of SPD Processing on the Strength and Conductivity of AA6061 Alloy. Advanced Engineering Materials, 2019, 21, 1801370.	1.6	14
82	Twin boundary migration in an individual platinum nanocrystal during catalytic CO oxidation. Nature Communications, 2021, 12, 5385.	5.8	14
83	Grain boundary interdiffusion and stresses in thin polycrystalline films. Journal of Materials Science, 2011, 46, 4343-4348.	1.7	13
84	Particle rearrangement during sintering of heterogeneous powder mixtures: A combined experimental and theoretical study. Acta Materialia, 2012, 60, 123-130.	3.8	13
85	Encapsulation by segregation â€“ A multifaceted approach to gold segregation in iron particles on sapphire. Acta Materialia, 2016, 102, 342-351.	3.8	13
86	Hydrogenation effect on microstructure and mechanical properties of Mg-Gd-Y-Zn-Zr alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 719, 171-177.	2.6	13
87	Pseudoelasticity of Metal Nanoparticles Is Caused by Their Ultrahigh Strength. Advanced Functional Materials, 2020, 30, 1807554.	7.8	13
88	Architectured hybrid conductors: Aluminium with embedded copper helix. Materials and Design, 2020, 187, 108398.	3.3	13
89	Relative grain boundary energies in ultrafine grain Ni obtained by high pressure torsion. Scripta Materialia, 2020, 182, 90-93.	2.6	13
90	Gradient bandgap narrowing in severely deformed ZnO nanoparticles. Materials Research Letters, 2021, 9, 58-64.	4.1	13

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91	Grain Boundary Wetting Phenomena in High Entropy Alloys Containing Nitrides, Carbides, Borides, Silicides, and Hydrogen: A Review. Crystals, 2021, 11, 1540.	1.0	13
92	Modeling of aluminum via filling by forcefill. Journal of Applied Physics, 2003, 93, 5812-5815.	1.1	12
93	A model of grain boundary diffusion in polycrystals with evolving microstructure. International Journal of Materials Research, 2009, 100, 530-535.	0.1	12
94	Sintering of spherical particles of two immiscible phases controlled by surface and interphase boundary diffusion. Acta Materialia, 2013, 61, 2607-2616.	3.8	12
95	The role of surface coarsening and sintering during thermal decomposition of titanium hydride. International Journal of Hydrogen Energy, 2019, 44, 6045-6054.	3.8	12
96	Size and shape effects on the strength of platinum nanoparticles. Journal of Materials Science, 2021, 56, 18300-18312.	1.7	12
97	Formation of hollow gold-silver nanoparticles through the surface diffusion induced bulk intermixing. Acta Materialia, 2016, 117, 188-196.	3.8	11
98	Stabilization of ultrafine-grained microstructure in high-purity copper by gas-filled pores produced by severe plastic deformation. Scripta Materialia, 2020, 178, 29-33.	2.6	11
99	Imaging the facet surface strain state of supported multi-faceted Pt nanoparticles during reaction. Nature Communications, 2022, 13, .	5.8	11
100	Phase Transformations in Au-Fe Particles and Thin Films: Size Effects at the Micro- and Nano-scales. Jom, 2016, 68, 1335-1342.	0.9	10
101	Engineering of hollow AlAu2 nanoparticles on sapphire by solid state dewetting and oxidation of Al. Materials and Design, 2019, 165, 107557.	3.3	10
102	Grain growth stagnation in thin films due to shear-coupled grain boundary migration. Scripta Materialia, 2020, 180, 83-87.	2.6	10
103	Solid-state dewetting of thin Au films on oxidized surface of biomedical TiAlV alloy. Acta Materialia, 2022, 231, 117919.	3.8	10
104	Sintering of fully faceted crystalline particles. International Journal of Materials Research, 2010, 101, 75-83.	0.1	9
105	Metastable porosity in thin polycrystalline films. Scripta Materialia, 2013, 69, 764-767.	2.6	9
106	The effect of bismuth on microstructure evolution of ultrafine grained copper. Materials Letters, 2017, 199, 156-159.	1.3	9
107	Interdiffusion in bimetallic Auâ€“Fe nanowhiskers controlled by interface mobility. Acta Materialia, 2020, 197, 137-145.	3.8	9
108	Multi-wavelength Bragg coherent X-ray diffraction imaging of Au particles. Journal of Applied Crystallography, 2020, 53, 170-177.	1.9	9

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109	A convolutional neural network for defect classification in Bragg coherent X-ray diffraction. Npj Computational Materials, 2021, 7, .	3.5	9
110	Nanohardness and Crack Resistance of HTS YBCO Thin Films. IEEE Transactions on Applied Superconductivity, 2005, 15, 3585-3588.	1.1	8
111	Grain growth inhibition in thin nanocrystalline Au films by grain boundary diffusion and oxidation of Ti. Acta Materialia, 2013, 61, 529-539.	3.8	8
112	Recovery, recrystallization and diffusion in cold-rolled Ni. International Journal of Materials Research, 2021, 106, 554-564.	0.1	7
113	The effect of stress on surface and interface segregation in thin alloy films on inert substrates. Journal of Materials Science, 2020, 55, 3629-3635.	1.7	7
114	Theory of Triple Junctions Mobility in Crystals with Impurities. Journal of Materials Science, 1999, 7, 297-305.	1.2	6
115	Generation of Electrical Currents and Magnetic Fields by Grain Boundary Motion. Journal of Materials Science, 2002, 10, 279-285.	1.2	6
116	The kinetics of hollowing of Agâ€“Au coreâ€“shell nanowhiskers controlled by short-circuit diffusion. Acta Materialia, 2015, 82, 145-154.	3.8	6
117	Grain boundaries effects on hole morphology and growth during solid state dewetting of thin films. Scripta Materialia, 2017, 134, 115-118.	2.6	6
118	Continuous scanning for Bragg coherent X-ray imaging. Scientific Reports, 2020, 10, 12760.	1.6	6
119	Simultaneous Multi-Bragg Peak Coherent X-ray Diffraction Imaging. Crystals, 2021, 11, 312.	1.0	6
120	Diffusion-induced recrystallization during the early stages of solid-state dewetting of Ni-Pt bilayers. Acta Materialia, 2022, 225, 117537.	3.8	6
121	Selfâ€Healing of Crystal Voids in Double Perovskite Nanocrystals Is Related to Surface Passivation. Advanced Functional Materials, 2022, 32, .	7.8	6
122	Oxidation induced cubic-tetragonal phase transformation in titanium hydride powders. International Journal of Hydrogen Energy, 2020, 45, 25043-25053.	3.8	5
123	When More Is Less: Plastic Weakening of Single Crystalline Ag Nanoparticles by the Polycrystalline Au Shell. ACS Nano, 2021, 15, 14061-14070.	7.3	5
124	Capillary-driven interdiffusion along interphase boundaries in solids. Philosophical Magazine, 2013, 93, 2033-2043.	0.7	4
125	Annealing-induced recovery of indents in thin Au(Fe) bilayer films. Beilstein Journal of Nanotechnology, 2016, 7, 2088-2099.	1.5	4
126	Coherency strain reduction in particles on a substrate as a driving force for solute segregation. Scripta Materialia, 2016, 122, 89-92.	2.6	4

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127	Hillocks formation in the Cr-doped Ni thin films: growth mechanisms and the nano-marker experiment. Journal of Materials Science, 2020, 55, 2588-2603.	1.7	4
128	Faceting of Twin Grain Boundaries in Highâ€Purity Copper Subjected to High Pressure Torsion. Advanced Engineering Materials, 2020, 22, 1900589.	1.6	4
129	The Effect of a Small Copper Addition on the Electrical Conductivity of Aluminum. Advanced Engineering Materials, 2020, 22, 2000058.	1.6	4
130	Phase transformations observed at the interfaces between crystalline grains in pure metals. Nature, 2020, 579, 350-351.	13.7	4
131	Microstructure and mechanical properties of Mgâ€“GdH2 composite prepared by internal hydrogenation. Journal of Materials Science, 2022, 57, 11649-11662.	1.7	4
132	Structure and composition of laser produced WC alloyed layers on M2 high-speed steel. Journal of Materials Science Letters, 2001, 20, 1917-1920.	0.5	3
133	Thermal stability and strength of polycrystalline nanowires. Materialwissenschaft Und Werkstofftechnik, 2005, 36, 505-508.	0.5	3
134	Plastic Forming of Metals at the Nanoscale: Interdiffusion-Induced Bending of Bimetallic Nanowhiskers. ACS Nano, 2020, 14, 11691-11699.	7.3	3
135	Solid state dewetting of Ni-Co bilayers on sapphire during slow heating and cooling. Acta Materialia, 2022, 233, 117984.	3.8	3
136	The effect of surface contact conditions on grain boundary interdiffusion in a semi-infinite bicrystal. Philosophical Magazine, 2014, 94, 3398-3412.	0.7	2
137	Microstructure evolution of thin nickel films with embedded chromium oxide nanoparticles. Acta Materialia, 2020, 201, 561-571.	3.8	2
138	The role of defects in solid state dewetting of ultrathin Ag film on Si(557). Scripta Materialia, 2021, 194, 113655.	2.6	2
139	Inâ€situ force measurement during nanoâ€indentation combined with Laue microdiffraction. Nano Select, 2021, 2, 99-106.	1.9	2
140	Thermal stability of polycrystalline nanowires. International Journal of Materials Research, 2022, 96, 1119-1123.	0.1	2
141	Grain boundary self-diffusion in Î±-iron of different purity: effect of dislocation enhanced diffusion. International Journal of Materials Research, 2022, 95, 945-952.	0.1	2
142	Thermal ridges â€“ Formation of hillock-like structures in deformed bulk nickel. Acta Materialia, 2022, 237, 118151.	3.8	2
143	Thermodynamic model of porosity stabilization in polycrystalline solids. Scripta Materialia, 2018, 156, 75-79.	2.6	1
144	Pores shrinkage and growth in polycrystalline hollow nanoparticles and nanotubes. Scripta Materialia, 2020, 180, 93-96.	2.6	1

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145	Grain Boundary Diffusion and Segregation in the Solid State Phase Transformations. Materials Research Society Symposia Proceedings, 1998, 527, 255.	0.1	0
146	Shape Memory: Selfâ€Healing and Shape Memory Effects in Gold Microparticles through the Defectsâ€Mediated Diffusion (Adv. Sci. 8/2017). Advanced Science, 2017, 4, .	5.6	0
147	Grain boundary grooving in a bicrystal with passivation coating. Continuum Mechanics and Thermodynamics, 2021, 33, 2431-2451.	1.4	0
148	Thermodynamics and kinetics of surface/interface segregation in the stressed ultrathin alloy film on inert substrate. Applied Surface Science, 2021, 562, 150050.	3.1	0
149	Solid state infiltration of porous steel with aluminium by the forcefill process. International Journal of Materials Research, 2022, 96, 1193-1195.	0.1	0
150	The effect of exposure to elevated temperatures on the microstructure and hardness of Mgâ€“Caâ€“Zn alloy. International Journal of Materials Research, 2022, 97, 64-71.	0.1	0