

# Eric Hug

## List of Publications by Year in Descending Order

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**Version:** 2024-04-20

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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.

80  
papers

1,375  
citations

21  
h-index

35  
g-index

82  
ext. papers

1,596  
ext. citations

3.3  
avg, IF

4.83  
L-index

#	Paper	IF	Citations
80	Additive manufacturing of a Ni-20 wt%Cr binary alloy by laser powder bed fusion: Impact of the microstructure on the mechanical properties. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2022</b> , 834, 142625	5.3	1
79	Failure of a brittle layer on a ductile substrate: Nanoindentation experiments and FEM simulations. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2022</b> , 163, 104859	5	0
78	Study by nanoindentation of the influence of the manufacturing process on the mechanical properties of Copper-Clad Aluminum wires. <i>Materiaux Et Techniques</i> , <b>2022</b> , 110, 204	0.6	
77	Exploring the Strain Hardening Mechanisms of Ultrafine Grained Nickel Processed by Spark Plasma Sintering. <i>Metals</i> , <b>2021</b> , 11, 65	2.3	1
76	Mechanical response of nickel multicrystals for shear and tensile conditions at room temperature and 573 K. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2021</b> , 809, 140987	5.3	0
75	Size effects in cobalt plastically strained in tension: impact on gliding and twinning work hardening mechanisms. <i>Journal of Materials Research and Technology</i> , <b>2021</b> , 11, 1362-1377	5.5	2
74	Analysis of the twin variant selection in polycrystalline cobalt. <i>Journal of Materials Science</i> , <b>2021</b> , 56, 7740-7752	4.3	
73	Experimental Investigation of Allotropic Transformation of Cobalt: Influence of Temperature Cycle, Mechanical Loading and Starting Microstructure. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2021</b> , 52, 1477-1491	2.3	1
72	Tunable surface boundary conditions in strain gradient crystal plasticity model. <i>Mechanics of Materials</i> , <b>2020</b> , 145, 103393	3.3	0
71	Investigation of the early stage of reactive interdiffusion in the Cu-Al system by in-situ transmission electron microscopy. <i>Materialia</i> , <b>2020</b> , 9, 100633	3.2	8
70	Ultrafast Atomic Diffusion Paths in Fine-Grained Nickel Obtained by Spark Plasma Sintering. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2020</b> , 51, 3425-3434	2.3	2
69	Achieving good tensile properties in ultrafine grained nickel by spark plasma sintering. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2020</b> , 772, 138770	5.3	5
68	The Effect of Different Thermal Treatment on the Allotropic fcc-<math>\rightarrow</math>bcc Transformation and Compression Behavior of Polycrystalline Cobalt. <i>Materials</i> , <b>2020</b> , 13,	3.5	2
67	Characterization of deformation twinning in polycrystalline cobalt: A quantitative analysis. <i>Materialia</i> , <b>2019</b> , 7, 100420	3.2	4
66	Size effects and magnetoelastic couplings: a link between Hall-Petch behaviour and coercive field in soft ferromagnetic metals. <i>Philosophical Magazine</i> , <b>2019</b> , 99, 1297-1326	1.6	5
65	Secondary creep stage behavior of copper-clad aluminum thin wires submitted to a moderate temperature level. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2018</b> , 709, 134-138	5.3	8
64	A Correlation between the Ultimate Shear Stress and the Thickness Affected by Intermetallic Compounds in Friction Stir Welding of Dissimilar Aluminum Alloy-Stainless Steel Joints. <i>Metals</i> , <b>2018</b> , 8, 179	2.3	12

63	Influence of intermetallic compounds on the electrical resistivity of architected copper clad aluminum composites elaborated by a restacking drawing method. <i>Materials and Design</i> , <b>2018</b> , 155, 366-374	8.1	18
62	Tensile properties of spark plasma sintered AISI 316L stainless steel with unimodal and bimodal grain size distributions. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2018</b> , 729, 249-256	5.3	21
61	Damage mechanisms in multiphased steels with a bainitic matrix under various mechanical loading paths. <i>Procedia Manufacturing</i> , <b>2018</b> , 15, 1557-1564	1.5	4
60	Elaboration of Architected Copper Clad Aluminium Composites by a Multi-Step Drawing Process. <i>Materials Science Forum</i> , <b>2018</b> , 941, 1914-1919	0.4	3
59	Analysis of Nuclei in a Heavy-Section Nodular Iron Casting. <i>Materials Science Forum</i> , <b>2018</b> , 925, 173-180	0.4	6
58	TEM analysis of the deformation microstructure of polycrystalline cobalt plastically strained in tension. <i>Materials Characterization</i> , <b>2017</b> , 134, 76-83	3.9	14
57	Nanostructuring of metals via spark plasma sintering using activated powder obtained by ball-milling: Impact on the strain-hardening mechanisms <b>2017</b> ,		3
56	Kocks-Mecking analysis of the size effects on the mechanical behavior of nickel polycrystals. <i>International Journal of Plasticity</i> , <b>2017</b> , 98, 106-122	7.6	40
55	Impact of the nanostructuring on the corrosion resistance and hardness of irradiated 316 austenitic stainless steels. <i>Applied Surface Science</i> , <b>2017</b> , 392, 1026-1035	6.7	29
54	Influence of friction stir welding parameters on titanium-aluminum heterogeneous lap joining configuration <b>2017</b> ,		2
53	Caractérisation par nanoindentation du GaN irradié par des ions uranium de grande énergie. <i>Materiaux Et Techniques</i> , <b>2017</b> , 105, 108	0.6	
52	An Experimental Investigation of the Size Effects in Forming Processes of High-Purity Thin Metallic Sheets. <i>Materials Science Forum</i> , <b>2016</b> , 879, 459-464	0.4	3
51	Plasticity and Size Effects in High Purity Cobalt: An Experimental Study. <i>Materials Science Forum</i> , <b>2016</b> , 879, 560-565	0.4	1
50	Creep Tendencies of Cu-Al Thin Wires Submitted to Moderate Temperature Conditions: Influence of Intermetallic Compounds. <i>Materials Science Forum</i> , <b>2016</b> , 879, 631-636	0.4	
49	Statistical investigations of an ENIG Nickel film morphology by Atomic Force Microscopy. <i>E3S Web of Conferences</i> , <b>2016</b> , 12, 04003	0.5	1
48	Thermomechanical properties of high martensitic Dual-phase steels related to dislocation structures and void damage evolution. <i>Advances in Materials and Processing Technologies</i> , <b>2016</b> , 2, 339-347	0.8	0
47	Up-scaled synthesis process of sulphur-based thermoelectric materials. <i>RSC Advances</i> , <b>2016</b> , 6, 10044-10053	0.7	21
46	Evolution of damage and fracture in two families of NiTiMo sinter-hardened steels with various initial porosities. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2016</b> , 654, 85-93	5.3	12

45	Structural analysis and thermoelectric properties of mechanically alloyed colusites. <i>Journal of Materials Chemistry C</i> , <b>2016</b> , 4, 7455-7463	7.1	33
44	Influence of spark plasma sintering conditions on the sintering and functional properties of an ultra-fine grained 316L stainless steel obtained from ball-milled powder. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2016</b> , 665, 125-134	5.3	35
43	Size effects and temperature dependence on strain-hardening mechanisms in some face centered cubic materials. <i>Mechanics of Materials</i> , <b>2015</b> , 91, 136-151	3.3	22
42	Size effects and HallPetch relation in polycrystalline cobalt. <i>Philosophical Magazine Letters</i> , <b>2015</b> , 95, 122-130	1	15
41	Numerical Prediction Model of Temperature Effect on DP1000 Steel Damage during Warm Formability. <i>Key Engineering Materials</i> , <b>2015</b> , 651-653, 77-82	0.4	2
40	Effect of stress path on the miniaturization size effect for nickel polycrystals. <i>International Journal of Plasticity</i> , <b>2015</b> , 64, 26-39	7.6	12
39	On the effects of a pressure induced amorphous silicon layer on consecutive spreading resistance microscopy scans of doped silicon. <i>Journal of Applied Physics</i> , <b>2015</b> , 117, 244306	2.5	9
38	Damage Analysis of a Ferritic SiMo Ductile Cast Iron Submitted to Tension and Compression Loadings in Temperature. <i>Metals</i> , <b>2015</b> , 5, 2351-2369	2.3	10
37	Temperature and stress state influence on void evolution in a high-strength dual-phase steel. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2015</b> , 626, 286-295	5.3	20
36	Nanoindentation du Si3N4pour la microelectronique : influence de la sous-couche. <i>Materiaux Et Techniques</i> , <b>2015</b> , 103, 606	0.6	
35	Study of the intermetallic growth in copper-clad aluminum wires after thermal aging. <i>Intermetallics</i> , <b>2014</b> , 50, 34-42	3.5	57
34	Functional properties of a spark plasma sintered ultrafine-grained 316L steel. <i>Materials &amp; Design</i> , <b>2014</b> , 63, 633-640		43
33	Temperature and Stress State Influence on Mechanical Properties and Damage Evolution of Dual-Phase Steels. <i>Materials Science Forum</i> , <b>2014</b> , 783-786, 886-891	0.4	
32	Impact of Metallurgical Size Effects on Plasticity of Thin Metallic Materials. <i>Materials Science Forum</i> , <b>2014</b> , 783-786, 2290-2295	0.4	
31	Thermomechanical Ageing of Copper-Clad Aluminum Wires Submitted to Creep Test Conditions. <i>Advanced Materials Research</i> , <b>2014</b> , 922, 207-212	0.5	
30	Corrosion and wear mechanisms of aluminum alloys surface reinforced by multicharged N-implantation. <i>Applied Surface Science</i> , <b>2014</b> , 310, 311-316	6.7	10
29	Size Effects in Thin Face-Centered Cubic Metals for Different Complex Forming Loadings. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2013</b> , 44, 5478-5487	7.3	15
28	Temperature dependence and size effects on strain hardening mechanisms in copper polycrystals. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2013</b> , 574, 253-261	5.3	26

27	Graphite nodule morphology as an indicator of the local complex strain state in ductile cast iron. <i>Materials &amp; Design</i> , <b>2013</b> , 52, 524-532		17
26	Growth and texture of spark plasma sintered Al <sub>2</sub> O <sub>3</sub> ceramics: A combined analysis of X-rays and electron back scatter diffraction. <i>Journal of Applied Physics</i> , <b>2013</b> , 113, 153510	2.5	15
25	Thermokinetic analysis of intermetallic growth in copper clad aluminium wires. <i>Materials Research Innovations</i> , <b>2013</b> , 17, s124-s128	1.9	2
24	Damage mechanisms evolution of ductile cast irons under thermomechanical loadings. <i>International Journal of Materials and Product Technology</i> , <b>2013</b> , 47, 23	1	6
23	Strain path influence on size effects during thin sheet copper microforming. <i>International Journal of Materials and Product Technology</i> , <b>2013</b> , 47, 3	1	5
22	Finite element analysis of the free surface effects on the mechanical behavior of thin nickel polycrystals. <i>International Journal of Plasticity</i> , <b>2012</b> , 29, 155-172	7.6	45
21	Nitriding aluminum alloys by N-multicharged ions implantation: Correlation between surface strengthening and microstructure modifications. <i>Surface and Coatings Technology</i> , <b>2012</b> , 206, 5028-5035 <sup>4.4</sup>		16
20	Experimental investigations and FEM simulations of parameters influencing the Fe-(wt.3%)Si shearing process. <i>Mechanics and Industry</i> , <b>2012</b> , 13, 271-278	0.8	1
19	Brittleness study of intermetallic (Cu, Al) layers in copper-clad aluminium thin wires. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2011</b> , 528, 7103-7106	5.3	83
18	Microstructural size effects on mechanical properties of high purity nickel. <i>International Journal of Plasticity</i> , <b>2011</b> , 27, 635-654	7.6	102
17	Direct correlation between strengthening mechanisms and electrical noise in strained copper wires. <i>Physical Review B</i> , <b>2011</b> , 83,	3.3	3
16	Intrinsic Effects due to the Reduction of Thickness on the Mechanical Behavior of Nickel Polycrystals. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2010</b> , 41, 2498-2506	2.3	33
15	TEM study of dislocation patterns in near-surface and core regions of deformed nickel polycrystals with few grains across the cross section. <i>Mechanics of Materials</i> , <b>2010</b> , 42, 44-54	3.3	74
14	Material characterization of blanked parts in the vicinity of the cut edge using nanoindentation technique and inverse analysis. <i>International Journal of Mechanical Sciences</i> , <b>2009</b> , 51, 899-906	5.5	8
13	On the origin of the stress decrease for nickel polycrystals with few grains across the thickness. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2009</b> , 500, 207-215	5.3	76
12	Application of the Monkman-Grant law to the creep fracture of nodular cast irons with various matrix compositions and structures. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2009</b> , 518, 65-75	5.3	20
11	Hall-Petch behaviour of Ni polycrystals with a few grains per thickness. <i>Materials Letters</i> , <b>2008</b> , 62, 1718-1720	3.3	76
10	Influence of the size effect on work hardening behaviour in stage II of Ni <sub>20</sub> wt.%Cr. <i>Materials Letters</i> , <b>2008</b> , 62, 3591-3593	3.3	8

9	Rate-dependent constitutive model for sheet metal blanking investigation. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2008</b> , 487, 162-170	5.3	18
8	Magnetic behaviour versus tensile deformation mechanisms in a non-oriented Fe(3 wt.%)Si steel. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2003</b> , 359, 62-74	5.3	56
7	Effect of internal stresses on the magnetic properties of non-oriented Fe(3 wt.% Si and (Fe,Co)2 wt.% V alloys. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2002</b> , 332, 193-202	5.3	21
6	New perspectives for magnetomechanical coupling in high-purity nickel. <i>IEEE Transactions on Magnetics</i> , <b>2002</b> , 38, 2820-2822	2	1
5	. <i>IEEE Transactions on Magnetics</i> , <b>2000</b> , 36, 3137-3140	2	98
4	Some aspects of the magnetomechanical coupling in the strengthening of nonoriented and grain-oriented 3% SiFe alloys. <i>IEEE Transactions on Magnetics</i> , <b>1997</b> , 33, 763-771	2	15
3	Influence of the plastic anisotropy on the magnetic properties of a nonoriented 3% silicon iron. <i>Journal of Applied Physics</i> , <b>1996</b> , 79, 4571	2.5	12
2	Influence of plastic strain on magnetic behaviour of non-oriented Fe3Si and application to manufacturing test by punching. <i>Materials Science and Technology</i> , <b>1995</b> , 11, 482-487	1.5	22
1	Influence de l'écrouissage sur les propriétés magnétiques d'alliages Fe-3 %Si non orientés. <i>Journal De Physique III</i> , <b>1994</b> , 4, 1267-1284		3