

Ian M Robertson

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/4752366/publications.pdf>

Version: 2024-02-01

54
papers

4,069
citations

257450

24
h-index

223800

46
g-index

57
all docs

57
docs citations

57
times ranked

2713
citing authors

#	ARTICLE	IF	CITATIONS
1	Enhancing radiation tolerance by controlling defect mobility and migration pathways in multicomponent single-phase alloys. <i>Nature Communications</i> , 2016, 7, 13564.	12.8	533
2	Hydrogen Embrittlement Understood. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2015, 46, 1085-1103.	2.1	385
3	Hydrogen Embrittlement Understood. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2015, 46, 2323-2341.	2.2	370
4	Energy of slip transmission and nucleation at grain boundaries. <i>Acta Materialia</i> , 2011, 59, 283-296.	7.9	332
5	The role of hydrogen in hydrogen embrittlement fracture of lath martensitic steel. <i>Acta Materialia</i> , 2012, 60, 5182-5189.	7.9	314
6	On the formation and nature of quasi-cleavage fracture surfaces in hydrogen embrittled steels. <i>Acta Materialia</i> , 2011, 59, 1601-1606.	7.9	295
7	The effect of nanosized (Ti,Mo)C precipitates on hydrogen embrittlement of tempered lath martensitic steel. <i>Acta Materialia</i> , 2014, 74, 244-254.	7.9	208
8	Hydrogen-induced intergranular failure of iron. <i>Acta Materialia</i> , 2014, 69, 275-282.	7.9	204
9	Modeling hydrogen transport by dislocations. <i>Journal of the Mechanics and Physics of Solids</i> , 2015, 78, 511-525.	4.8	168
10	Mechanisms of radiation-induced segregation in CrFeCoNi-based single-phase concentrated solid solution alloys. <i>Acta Materialia</i> , 2017, 126, 182-193.	7.9	133
11	Influence of chemical disorder on energy dissipation and defect evolution in advanced alloys. <i>Journal of Materials Research</i> , 2016, 31, 2363-2375.	2.6	110
12	Effect of hydrogen environment on the separation of Fe grain boundaries. <i>Acta Materialia</i> , 2016, 107, 279-288.	7.9	106
13	Towards an integrated materials characterization toolbox. <i>Journal of Materials Research</i> , 2011, 26, 1341-1383.	2.6	84
14	<i>In situ</i> and tomographic analysis of dislocation/grain boundary interactions in α -titanium. <i>Philosophical Magazine</i> , 2014, 94, 814-829.	1.6	69
15	Influence of hydrogen on dislocation self-organization in Ni. <i>Acta Materialia</i> , 2017, 135, 96-102.	7.9	65
16	Enhanced damage resistance and novel defect structure of CrFeCoNi under in situ electron irradiation. <i>Scripta Materialia</i> , 2016, 125, 5-9.	5.2	62
17	Hydrogen embrittlement of the equi-molar FeNiCoCr alloy. <i>Acta Materialia</i> , 2018, 157, 218-227.	7.9	52
18	Hydrogen-modified dislocation structures in a cyclically deformed ferritic-pearlitic low carbon steel. <i>Acta Materialia</i> , 2018, 144, 164-176.	7.9	48

#	ARTICLE	IF	CITATIONS
19	Interpretation of Hydrogen-induced Fracture Surface Morphologies for Lath Martensitic Steel. , 2014, 3, 1700-1705.		47
20	Micromechanics of dislocation channeling in intergranular stress corrosion crack nucleation. Current Opinion in Solid State and Materials Science, 2012, 16, 134-142.	11.5	43
21	Atomistic studies of hydrogen effects on grain boundary structure and deformation response in FCC Ni. Computational Materials Science, 2016, 122, 92-101.	3.0	36
22	Evolution of ion damage at 773K in Ni- containing concentrated solid-solution alloys. Journal of Nuclear Materials, 2018, 501, 132-142.	2.7	30
23	Controlled environment transmission electron microscopy. , 1998, 42, 260-269.		27
24	The role of grain boundary microchemistry in irradiation-assisted stress corrosion cracking of a Fe-13Cr-15Ni alloy. Acta Materialia, 2017, 138, 61-71.	7.9	25
25	Enhanced and tunable fluorescent quantum dots within a single crystal of protein. Nano Research, 2013, 6, 627-634.	10.4	24
26	<i>In situ</i> TEM characterisation of dislocation interactions in α -titanium. Philosophical Magazine, 2016, 96, 1437-1447.	1.6	24
27	Characterization of the Dehydrogenation Process of LiBH_4 Confined in Nanoporous Carbon. Journal of Physical Chemistry C, 2014, 118, 8843-8851.	3.1	23
28	Impact of alloy composition on one-dimensional glide of small dislocation loops in concentrated solid solution alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 700, 617-621.	5.6	21
29	Stress Localization Resulting from Grain Boundary Dislocation Interactions in Relaxed and Defective Grain Boundaries. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 667-683.	2.2	21
30	Interaction of Hydrogen Transport and Material Elastoplasticity in Pipeline Steels. Journal of Pressure Vessel Technology, Transactions of the ASME, 2009, 131, .	0.6	20
31	Assessment of the impact of hydrogen on the stress developed ahead of a fatigue crack. Acta Materialia, 2019, 174, 181-188.	7.9	19
32	Interface mediated mechanisms of plastic strain recovery in a AgCu alloy. Acta Materialia, 2016, 117, 111-121.	7.9	18
33	On the failure of surface damage to assess the hydrogen-enhanced deformation ahead of crack tip in a cyclically loaded austenitic stainless steel. Scripta Materialia, 2019, 166, 102-106.	5.2	16
34	Transition from a punched-out dislocation to a slip dislocation revealed by electron tomography. Journal of Materials Research, 2010, 25, 2292-2296.	2.6	15
35	Sequential multiplication of dislocation sources along a crack front revealed by high-voltage electron microscopy and tomography. Journal of Materials Research, 2011, 26, 508-513.	2.6	15
36	Micromechanistic origin of irradiation-assisted stress corrosion cracking. Philosophical Magazine, 2014, 94, 4197-4218.	1.6	15

#	ARTICLE	IF	CITATIONS
37	Impact of initial catalyst form on the 3D structure and performance of ball-milled Ni-catalyzed MgH ₂ for hydrogen storage. International Journal of Hydrogen Energy, 2017, 42, 5177-5187.	7.1	14
38	On the small scale character of the stress and hydrogen concentration fields at the tip of an axial crack in steel pipeline: effect of hydrogen-induced softening on void growth. International Journal of Materials Research, 2008, 99, 557-570.	0.3	13
39	Influence of internal hydrogen content on the evolved microstructure beneath fatigue striations in 316L austenitic stainless steel. Acta Materialia, 2021, 213, 116957.	7.9	13
40	In situ and tomographic characterization of damage and dislocation processes in irradiated metallic alloys by transmission electron microscopy. Journal of Materials Research, 2015, 30, 1202-1213.	2.6	11
41	Design and prototyping of a FRCC modular and climate responsive affordable housing system for underserved people in the pacific island nations. Journal of Building Engineering, 2015, 4, 268-282.	3.4	11
42	In-Situ Tem Studies of Recrystallization and Grain Growth in Al-Mg-Mn-Zr Alloys. Materials Research Society Symposia Proceedings, 1995, 404, 177.	0.1	6
43	Towards Direct Synthesis of Alane: A Predicted Defect-Mediated Pathway Confirmed Experimentally. ChemSusChem, 2016, 9, 2358-2364.	6.8	5
44	A comparative characterization of defect structure in NiCo and NiFe equimolar solid solution alloys under in situ electron irradiation. Scripta Materialia, 2019, 166, 96-101.	5.2	5
45	Hydrogen Embrittlement: Mechanisms. , 2016, , 1768-1784.		4
46	Electronic Transitions in Mixed Phase Crystalline/Amorphous Silicon in the Low Crystalline Fraction Regime. Materials Research Society Symposia Proceedings, 1999, 557, 495.	0.1	2
47	In Situ TEM Investigation of Abnormal Grain Growth in Nanocrystalline Nickel. Materials Research Society Symposia Proceedings, 2005, 907, 1.	0.1	1
48	Grain Boundary Responses to Local and Applied Stress: An In Situ TEM Deformation Study. Materials Research Society Symposia Proceedings, 2006, 976, 1.	0.1	1
49	Effect of Hydrogen on Fatigue-Crack Growth of a Ferritic-Pearlitic Low Carbon Steel. , 2017, , .		1
50	In situ Transmission Electron Microscopy Investigation of Dislocation Interactions. , 2018, , 1-37.		1
51	In Situ Transmission Electron Microscopy Investigation of Dislocation Interactions. , 2019, , 131-166.		1
52	Crystallization of Isolated Amorphous Zones in Semiconductor Materials. Materials Research Society Symposia Proceedings, 2000, 650, 1441.	0.1	0
53	Transmission electron microscopy analysis of freestanding copper nanowires grown by chemical vapor deposition with no template or seed. , 2006, , .		0
54	Thickness and Surface Effects on Abnormal Grain Growth in Nanocrystalline Nickel Films. , 0, , 251-258.		0