Ian M Robertson

List of Publications by Year
in descending order

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	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
2	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
3	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
4	In Situ Transmission Electron Microscopy Investigation of Dislocation Interactions. , 2019, , 131-166.		1
5	Assessment of the impact of hydrogen on the stress developed ahead of a fatigue crack. Acta Materialia, 2019, 174, 181-188.	7.9	19
6	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
7	Evolution of ion damage at 773K in Ni- containing concentrated solid-solution alloys. Journal of Nuclear Materials, 2018, 501, 132-142.	2.7	30
8	Hydrogen-modified dislocation structures in a cyclically deformed ferritic-pearlitic low carbon steel. Acta Materialia, 2018, 144, 164-176.	7.9	48
9	Hydrogen embrittlement of the equi-molar FeNiCoCr alloy. Acta Materialia, 2018, 157, 218-227.	7.9	52
10	In situ Transmission Electron Microscopy Investigation of Dislocation Interactions. , 2018, , 1-37.		1
11	Impact of initial catalyst form on the 3D structure and performance of ball-milled Ni-catalyzed MgH2 for hydrogen storage. International Journal of Hydrogen Energy, 2017, 42, 5177-5187.	7.1	14
12	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
13	Mechanisms of radiation-induced segregation in CrFeCoNi-based single-phase concentrated solid solution alloys. Acta Materialia, 2017, 126, 182-193.	7.9	133
14	Effect of Hydrogen on Fatigue-Crack Growth of a Ferritic-Pearlitic Low Carbon Steel. , 2017, , .		1
15	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
16	Influence of hydrogen on dislocation self-organization in Ni. Acta Materialia, 2017, 135, 96-102.	7.9	65
17	Enhancing radiation tolerance by controlling defect mobility and migration pathways in multicomponent single-phase alloys. Nature Communications, 2016, 7, 13564.	12.8	533
18	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

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19	In situ TEM characterisation of dislocation interactions in Î±-titanium. Philosophical Magazine, 2016, 96, 1437-1447.	1.6	24
20	Hydrogen Embrittlement: Mechanisms. , 2016, , 1768-1784.		4
21	Enhanced damage resistance and novel defect structure of CrFeCoNi under in situ electron irradiation. Scripta Materialia, 2016, 125, 5-9.	5.2	62
22	Influence of chemical disorder on energy dissipation and defect evolution in advanced alloys. Journal of Materials Research, 2016, 31, 2363-2375.	2.6	110
23	Towards Direct Synthesis of Alane: A Predicted Defectâ€Mediated Pathway Confirmed Experimentally. ChemSusChem, 2016, 9, 2358-2364.	6.8	5
24	Interface mediated mechanisms of plastic strain recovery in a AgCu alloy. Acta Materialia, 2016, 117, 111-121.	7.9	18
25	Effect of hydrogen environment on the separation of Fe grain boundaries. Acta Materialia, 2016, 107, 279-288.	7.9	106
26	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
27	Modeling hydrogen transport by dislocations. Journal of the Mechanics and Physics of Solids, 2015, 78, 511-525.	4.8	168
28	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
29	Hydrogen Embrittlement Understood. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2015, 46, 2323-2341.	2.2	370
30	Hydrogen Embrittlement Understood. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2015, 46, 1085-1103.	2.1	385
31	In situand tomographic analysis of dislocation/grain boundary interactions in Î±-titanium. Philosophical Magazine, 2014, 94, 814-829.	1.6	69
32	Micromechanistic origin of irradiation-assisted stress corrosion cracking. Philosophical Magazine, 2014, 94, 4197-4218.	1.6	15
33	Interpretation of Hydrogen-induced Fracture Surface Morphologies for Lath Martensitic Steel. , 2014, 3, 1700-1705.		47
34	Hydrogen-induced intergranular failure of iron. Acta Materialia, 2014, 69, 275-282.	7.9	204
35	Characterization of the Dehydrogenation Process of LiBH₄ Confined in Nanoporous Carbon. Journal of Physical Chemistry C, 2014, 118, 8843-8851.	3.1	23
36	The effect of nanosized (Ti,Mo)C precipitates on hydrogen embrittlement of tempered lath martensitic steel. Acta Materialia, 2014, 74, 244-254.	7.9	208

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37	Enhanced and tunable fluorescent quantum dots within a single crystal of protein. Nano Research, 2013, 6, 627-634.	10.4	24
38	The role of hydrogen in hydrogen embrittlement fracture of lath martensitic steel. Acta Materialia, 2012, 60, 5182-5189.	7.9	314
39	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
40	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
41	Energy of slip transmission and nucleation at grain boundaries. Acta Materialia, 2011, 59, 283-296.	7.9	332
42	On the formation and nature of quasi-cleavage fracture surfaces in hydrogen embrittled steels. Acta Materialia, 2011, 59, 1601-1606.	7.9	295
43	Towards an integrated materials characterization toolbox. Journal of Materials Research, 2011, 26, 1341-1383.	2.6	84
44	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
45	Interaction of Hydrogen Transport and Material Elastoplasticity in Pipeline Steels. Journal of Pressure Vessel Technology, Transactions of the ASME, 2009, 131, .	0.6	20
46	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
47	Transmission electron microscopy analysis of freestanding copper nanowires grown by chemical vapor deposition with no template or seed. , 2006, , .		0
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	In Situ TEM Investigation of Abnormal Grain Growth in Nanocrystalline Nickel. Materials Research Society Symposia Proceedings, 2005, 907, 1.	0.1	1
50	Crystallization of Isolated Amorphous Zones in Semiconductor Materials. Materials Research Society Symposia Proceedings, 2000, 650, 1441.	0.1	0
51	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
52	Controlled environment transmission electron microscopy. , 1998, 42, 260-269.		27
53	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
54	Thickness and Surface Effects on Abnormal Grain Growth in Nanocrystalline Nickel Films. , 0, , 251-258.		0