Philipp Frankel

List of Publications by Year
in descending order

38 papers	1,309 citations	361045 20 h-index	395343 33 g-index
39 all docs	39 docs citations	39 times ranked	899 citing authors

#	Article	IF	Citations
1	The effect of Sn on autoclave corrosion performance and corrosion mechanisms in Zrâ€“Snâ€“Nb alloys. Acta Materialia, 2013, 61, 4200-4214.	3.8	127
2	The microstructure and microtexture of zirconium oxide films studied by transmission electron backscatter diffraction and automated crystal orientation mapping with transmission electron microscopy. Acta Materialia, 2014, 80, 159-171.	3.8	121
3	Residual stresses and tetragonal phase fraction characterisation of corrosion tested Zircaloy-4 using energy dispersive synchrotron X-ray diffraction. Journal of Nuclear Materials, 2013, 432, 102-112.	1.3	107
4	The effect of matrix chemistry on dislocation evolution in an irradiated Zr alloy. Acta Materialia, 2017, 130, 69-82.	3.8	80
5	Comparison of residual stresses in Tiâ€“6Alâ€“4V and Tiâ€“6Alâ€“2Snâ€“4Zrâ€“2Mo linear friction welds. Materials Science and Technology, 2009, 25, 640-650.	0.8	74
6	Evolution of dislocation structure in neutron irradiated Zircaloy-2 studied by synchrotron x-ray diffraction peak profile analysis. Acta Materialia, 2017, 126, 102-113.	3.8	63
7	Identifying suboxide grains at the metalâ€“oxide interface of a corroded Zrâ€“1.0%Nb alloy using (S)TEM, transmission-EBSD and EELS. Micron, 2015, 69, 35-42.	1.1	62
8	A study into stress relaxation in oxides formed on zirconium alloys. Journal of Nuclear Materials, 2015, 456, 415-425.	1.3	59
9	Finite element analysis of the tetragonal to monoclinic phase transformation during oxidation of zirconium alloys. Journal of Nuclear Materials, 2014, 454, 290-297.	1.3	52
10	Iron redistribution in a zirconium alloy after neutron and proton irradiation studied by energy-dispersive X-ray spectroscopy (EDX) using an aberration-corrected (scanning) transmission electron microscope. Journal of Nuclear Materials, 2014, 454, 387-397.	1.3	49
11	The effect of Sn concentration on oxide texture and microstructure formation in zirconium alloys. Acta Materialia, 2015, 99, 259-272.	3.8	47
12	Residual stress fields after FOD impact on flat and aerofoil-shaped leading edges. Mechanics of Materials, 2012, 55, 130-145.	1.7	42
13	Corrosion performance of Ti3SiC2, Ti3AlC2, Ti2AlC and Cr2AlC MAX phases in simulated primary water conditions. Corrosion Science, 2018, 139, 444-453.	3.0	41
14	Nano-scale chemical evolution in a proton-and neutron-irradiated Zr alloy. Journal of Nuclear Materials, 2017, 487, 30-42.	1.3	36
15	Crystallographic evolution of MAX phases in proton irradiating environments. Journal of Nuclear Materials, 2018, 502, 220-227.	1.3	30
16	The measurement of stress and phase fraction distributions in pre and post-transition Zircaloy oxides using nano-beam synchrotron X-ray diffraction. Journal of Nuclear Materials, 2016, 479, 559-575.	1.3	28
17	Effect of neutron and ion irradiation on the metal matrix and oxide corrosion layer on Zr-1.0Nb cladding alloys. Acta Materialia, 2019, 173, 313-326.	3.8	28
18	A study into the impact of interface roughness development on mechanical degradation of oxides formed on zirconium alloys. Journal of Nuclear Materials, 2015, 459, 166-174.	1.3	24

#	Article	IF	Citations
19	Investigating the thermal stability of irradiation-induced damage in a zirconium alloy with novel in situ techniques. Acta Materialia, 2018, 145, 255-263.	3.8	24
20	The effect of substrate texture and oxidation temperature onÂoxideÂtexture development in zirconium alloys. Journal of Nuclear Materials, 2017, 484, 347-356.	1.3	23
21	Synthesis of new M-layer solid-solution 312 MAX phases (Ta_{1â^'x}Ti_x)₃AlC₂ (x = 0.4, 0.62,) Tj ETQq1 1 0.784314 rgBT /O	1.7	22
22	Critical assessment of finite element analysis applied to metalâ€“oxide interface roughness in oxidising zirconium alloys. Journal of Nuclear Materials, 2015, 464, 313-319.	1.3	20
23	A method for accurate texture determination of thin oxide films by glancing-angle laboratory X-ray diffraction. Journal of Applied Crystallography, 2014, 47, 575-583.	1.9	19
24	Advances in synchrotron x-ray diffraction and transmission electron microscopy techniques for the investigation of microstructure evolution in proton- and neutron-irradiated zirconium alloys. Journal of Materials Research, 2015, 30, 1349-1365.	1.2	19
25	Phase stability of zirconium oxide films during focused ion beam milling. Journal of Nuclear Materials, 2018, 504, 176-180.	1.3	19
26	Advanced 3D characterisation of iodine induced stress corrosion cracks in zirconium alloys. Materials Characterization, 2018, 141, 348-361.	1.9	16
27	A multi-technique study of â€œbarrier layerâ€•nano-porosity in Zr oxides during corrosion and hydrogen pickup using (S)TEM, TKD, APT and NanoSIMS. Corrosion Science, 2019, 158, 108109.	3.0	15
28	Understanding Corrosion and Hydrogen Pickup of Zirconium Fuel Cladding Alloys: The Role of Oxide Microstructure, Porosity, Suboxides, and Second-Phase Particles. , 2018, , 93-126.		13
29	Size-distribution of irradiation-induced dislocation-loops in materials used in the nuclear industry. Journal of Nuclear Materials, 2021, 550, 152945.	1.3	12
30	Influence of proton-irradiation temperature on the damage accumulation in Ti3SiC2 and Ti3AlC2. Scripta Materialia, 2019, 165, 98-102.	2.6	10
31	High resolution crystallographic and chemical characterisation of iodine induced stress corrosion crack tips formed in irradiated and non-irradiated zirconium alloys. Journal of Nuclear Materials, 2019, 519, 166-172.	1.3	9
32	Investigating iodine-induced stress corrosion cracking of zirconium alloys using quantitative fractography. Journal of Nuclear Materials, 2020, 539, 152272.	1.3	6
33	Investigating the Effect of Zirconium Oxide Microstructure on Corrosion Performance: A Comparison between Neutron, Proton, and Nonirradiated Oxides. , 2018, , 491-523.		5
34	A novel method for radial hydride analysis in zirconium alloys: HAPPy. Journal of Nuclear Materials, 2022, 559, 153442.	1.3	3
35	The Effect of Loading Direction on Slip and Twinning in an Irradiated Zirconium Alloy. , 2021, , 233-261.		2
36	The Importance of Substrate Grain Orientation on Local Oxide Texture and Corrosion Performance in Î±-Zr Alloys. , 2021, , 878-903.		1

#	Article	IF	Citations
37	Toward a Mechanistic Understanding of Pellet Cladding Interaction Using Advanced 3D Characterization and Atomistic Simulation. , 2021, , 904-926.		0
38	Photon Irradiation Effects on Oxide Surface Electrochemistry and Oxide Microstructure of Zircaloy 4 in High-Temperature Water. , 2021, , 564-587.		0