Raul B Rebak

List of Publications by Year
in descending order

88 papers	1,755 citations	331670 21 h-index	289244 40 g-index
96 all docs	96 docs citations	96 times ranked	1175 citing authors

#	Article	IF	Citations
1	Oxide inclusions in laser additive manufactured stainless steel and their effects on impact toughness and stress corrosion cracking behavior. Journal of Nuclear Materials, 2018, 499, 182-190.	2.7	201
2	Uniform corrosion of FeCrAl alloys in LWR coolant environments. Journal of Nuclear Materials, 2016, 479, 36-47.	2.7	158
3	Iron-Based Amorphous Metals: High-Performance Corrosion-Resistant Material Development. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2009, 40, 1289-1305.	2.2	129
4	Radiation damage and irradiation-assisted stress corrosion cracking of additively manufactured 316L stainless steels. Journal of Nuclear Materials, 2019, 513, 33-44.	2.7	89
5	The mechanism of stress corrosion cracking of alloy 600 in high temperature water. Corrosion Science, 1996, 38, 971-988.	6.6	88
6	Corrosion resistance of thermally sprayed high-boron iron-based amorphous-metal coatings: Fe_{49.7}Cr_{17.7}Mn_{1.9}Mo_{7.4}W_{1.6}B_{15.2}C_{3.8}S Journal of Materials Research, 2007, 22, 2297-2311.	2.6	82
7	Crevice corrosion kinetics of nickel alloys bearing chromium and molybdenum. Electrochimica Acta, 2012, 76, 94-101.	5.2	67
8	Localized Corrosion Characteristics of Nickel Alloys: A Review. Acta Metallurgica Sinica (English) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 46	2.9	66
9	Corrosion fatigue crack growth of laser additively-manufactured 316L stainless steel in high temperature water. Corrosion Science, 2017, 127, 120-130.	6.6	66
10	Using electrochemical methods to determine alloy 22â€™s crevice corrosion repassivation potential. Jom, 2005, 57, 56-61.	1.9	59
11	Mechanical and chemical properties of PVD and cold spray Cr-coatings on Zircaloy-4. Journal of Nuclear Materials, 2020, 541, 152420.	2.7	48
12	Oxidation Characteristics of Two FeCrAl Alloys in Air and Steam from 800Â°C to 1300Â°C. Jom, 2018, 70, 1484-1492.	1.9	46
13	Hydrothermal corrosion of 2nd generation FeCrAl alloys for accident tolerant fuel cladding. Journal of Nuclear Materials, 2020, 536, 152221.	2.7	45
14	Iron-chrome-aluminum alloy cladding for increasing safety in nuclear power plants. EPJ Nuclear Sciences & Technologies, 2017, 3, 34.	0.7	43
15	Versatile Oxide Films Protect FeCrAl Alloys Under Normal Operation and Accident Conditions in Light Water Power Reactors. Jom, 2018, 70, 176-185.	1.9	35
16	Oxyanions as inhibitors of chloride-induced crevice corrosion of Alloy 22. Corrosion Science, 2013, 68, 72-83.	6.6	33
17	Passivation and Depassivation of Alloy 22 in Acidic Chloride Solutions. Journal of the Electrochemical Society, 2010, 157, C1.	2.9	30
18	Improving Nuclear Power Plant Safety with FeCrAl Alloy Fuel Cladding. MRS Advances, 2017, 2, 1217-1224.	0.9	30

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19	Characterization of oxides formed on iron-chromium-aluminum alloy in simulated light water reactor environments. Corrosion Reviews, 2017, 35, 177-188.	2.0	30
20	Sulfidic corrosion in refineries â€“ a review. Corrosion Reviews, 2011, 29, .	2.0	28
21	Uniform corrosion of FeCrAl cladding tubing for accident tolerant fuels in light water reactors. Journal of Nuclear Materials, 2021, 554, 153090.	2.7	25
22	Influence of halide ions and alloy microstructure on the passive and localized corrosion behavior of alloy 22. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2005, 36, 1179-1185.	2.2	22
23	Sulfide stress cracking of nickel-containing low-alloy steels. Corrosion Reviews, 2014, 32, 101-128.	2.0	22
24	Environmental Testing of Iron-Based Amorphous Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2008, 39, 225-234.	2.2	16
25	Utilizing FeCrAl Oxidation Resistance Properties in Water, Air and Steam for Accident Tolerant Fuel Cladding. ECS Transactions, 2018, 85, 3-12.	0.5	16
26	Measuring the Repassivation Potential of Alloy 22 Using the Potentiodynamic-Galvanostatic-Potentiostatic Method. Journal of ASTM International, 2007, 4, 101230.	0.2	15
27	Microstructure and tensile behavior of powder metallurgy FeCrAl accident tolerant fuel cladding. Journal of Nuclear Materials, 2022, 560, 153524.	2.7	15
28	Stress corrosion cracking (SCC) of nickel-based alloys. , 2011, , 273-306.		14
29	Alloy Selection for Accident Tolerant Fuel Cladding in Commercial Light Water Reactors. Metallurgical and Materials Transactions E, 2015, 2, 197-207.	0.5	14
30	Comparative Study of the Crevice Corrosion Resistance of UNS S30400 and UNS S31600 Stainless Steels in the Context of Galveleâ€™s Model. Corrosion, 2017, 73, 41-52.	1.1	13
31	Microstructural and Stress Corrosion Cracking Characteristics of Austenitic Stainless Steels Containing Silicon. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2009, 40, 2824-2836.	2.2	12
32	Nuclear Applications of Oxide Dispersion Strengthened and Nano-Featured Alloys: An Introduction. Jom, 2014, 66, 2424-2426.	1.9	12
33	Assessing the Pitting Corrosion Resistance of Oilfield Nickel Alloys at Elevated Temperatures by Electrochemical Methods. Corrosion, 2017, 73, 666-673.	1.1	11
34	Hydrogen Isotopes Permeation in Clean or Unoxidized FeCrAl Alloys: A Review. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2022, 53, 773-793.	2.2	11
35	Oxidation Resistance in 1200Â°C Steam of a FeCrAl Alloy Fabricated by Three Metallurgical Processes. Jom, 2022, 74, 1690-1697.	1.9	11
36	Electrochemical Studies on Silicate and Bicarbonate Ions for Corrosion Inhibitors. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2010, 41, 2563-2574.	2.2	9

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37	Characterization of the Corrosion Behavior of Alloy 22 after Five Years Immersion in Multi-ionic Solutions. Materials Research Society Symposia Proceedings, 2002, 757, II4.4.1.	0.1	8
38	Mechanisms of Inhibition of Crevice Corrosion in Alloy 22. Materials Research Society Symposia Proceedings, 2006, 985, 1.	0.1	8
39	Material corrosion issues for nuclear waste disposition in Yucca Mountain. Jom, 2008, 60, 40-43.	1.9	8
40	The role of hydrogen and creep in intergranular stress corrosion cracking of Alloy 600 and Alloy 690 in PWR primary water environments â€" a review. , 2008, , 123-141.		8
41	Characterization of Kanthal APMT and T91 oxidation at beyond design-basis accident temperatures. Corrosion Science, 2020, 171, 108598.	6.6	8
42	Crevice Corrosion Repassivation of Ni-Cr-Mo Alloys by Cooling. Corrosion, 2019, 75, 604-615.	1.1	7
43	Inhibition Mechanism of Phosphate Ions on Chloride-Induced Crevice Corrosion of Alloy 22. Corrosion, 2015, 71, 574-584.	1.1	6
44	Effect of Environmental Variables on Crevice Corrosion Susceptibility of Niâ€"Crâ€"Mo Alloys for Nuclear Repositories. , 2015, 8, 11-20.		6
45	Repassivation Potential of Alloy 22 in Chloride plus Nitrate Solutions using the Potentiodynamic-Galvanostatic-Potentiostatic Method. Materials Research Society Symposia Proceedings, 2006, 985, 1.	0.1	5
46	Environmentally assisted cracking of nickel alloys â€"a review. , 2008, , 435-446.		5
47	Stifling of Crevice Corrosion in Alloy 22 During Constant Potential Tests. Journal of Pressure Vessel Technology, Transactions of the ASME, 2009, 131, .	0.6	5
48	Materials in Nuclear Waste Disposition. Jom, 2014, 66, 455-460.	1.9	5
49	Resistance of Ferritic FeCrAl Alloys to Stress Corrosion Cracking for Light Water Reactor Fuel Cladding Applications. Corrosion, 2020, 76, .	1.1	5
50	The Long-Term Corrosion Test Facility at Lawrence Livermore National Laboratory. , 2007, , .		5
51	Zinc water chemistry reduces dissolution of FeCrAl for nuclear fuel cladding. Corrosion Science, 2022, 198, 110156.	6.6	5
52	Resistance of Ferritic Steels to Stress Corrosion Cracking in High Temperature Water. , 2013, , .		4
53	Evolution of Microstructure and Surface Characteristics of FeCrAl alloys when Subjected to Flow Boiling Testing. Journal of Nuclear Materials, 2021, 557, 153269.	2.7	4
54	Photoelectrochemical Investigation of Radiation-Enhanced Shadow Corrosion Phenomenon. Journal of ASTM International, 2010, 7, 1-18.	0.2	4

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55	Hydrogen Permeation in FeCrAl APMT Alloy for Accident Tolerant Fuel Cladding. Corrosion, 2022, 78, 449-456.	1.1	4
56	Oxide Film Aging on Alloy 22 in Halide Containing Solutions. Materials Research Society Symposia Proceedings, 2006, 985, 1.	0.1	3
57	Hydrogen Diffusion in FeCrAl Alloys for Light Water Reactors Cladding Applications. , 2016, , .		3
58	Crevice Repassivation Potential of Alloy 22 in High-Nitrate Dust Deliquescence Type Environments. , 2007, , .		3
59	Salt Fog Testing Iron-Based Amorphous Alloys. Materials Research Society Symposia Proceedings, 2006, 985, 1.	0.1	2
60	Anionic and Cationic Effects on the Crevice Corrosion Susceptibility of Alloy 22. Materials Research Society Symposia Proceedings, 2009, 1193, 161.	0.1	2
61	Long-Term Corrosion Potential Behavior of Alloy 22 in Hot 5 m CaCl2 + 5 m Ca(NO3)2 Brines. , 2007, , .		2
62	Electrochemical Behavior of Accident Tolerant Fuel Cladding Materials under Simulated Light Water Reactor Conditions. , 2019, , 231-243.		2
63	Anodic Polarization Behavior of Titanium Grade 7 in Dust Deliquescence Salt Environments. , 2007, , .		2
64	Hydrogen Diffusion and Trapping Effects in Low and Medium Carbon Steels for Subsurface Reinforcement in the Proposed Yucca Mountain Repository. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2007, 38, 348-355.	2.2	1
65	Efficiency of inhibitors for chloride-induced crevice corrosion of Alloy 22. Materials Research Society Symposia Proceedings, 2012, 1475, 495.	0.1	1
66	Environmentally Assisted Cracking Research of Engineering Alloys for Nuclear Waste Repository Containers. Materials Research Society Symposia Proceedings, 2012, 1475, 449.	0.1	1
67	Introduction to Corrosion in Energy Production. Jom, 2013, 65, 1021-1023.	1.9	1
68	2012 Research Topical Symposium Proceedings â€“ â€œCorrosion Degradation of Materials in Nuclear Power Reactorsâ€”Lessons Learned and Future Challengesâ€• Corrosion, 2013, 69, 951-952.	1.1	1
69	Advanced Steels for Accident Tolerant Fuel Cladding in Current Light Water Reactors. , 2014, , 433-442.		1
70	Enhanced Corrosion Resistance of Iron-Based Amorphous Alloys. , 2007, , .		1
71	Analysis of inconel 600 oxidized under loss-of-coolant accident conditions: A multi-modal approach. Corrosion Science, 2022, 195, 109950.	6.6	1
72	Passive Corrosion Behavior of Alloy 22 in Multi-Ionic Aqueous Environments. , 2002, , 67.		0

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73	Long-Term Immersion Testing of Alloy 22 and Titanium Grade 7 Double U-Bend Specimens. , 2007, , .		0
74	Anodic Behavior of Specimens Prepared From a Full-Diameter Alloy 22 Fabricated Mockup Container for Nuclear Waste. Journal of Pressure Vessel Technology, Transactions of the ASME, 2007, 129, 729-736.	0.6	0
75	Materials Issues for Advanced Nuclear Systems. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2008, 39, 211-211.	2.2	0
76	The Long-Term Environmental Degradation of Zirconium Alloys in Contact With Spent Nuclear Fuel: A Review. , 2008, , .		0
77	Materials for the Nuclear Renaissance. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2009, 40, 2802-2802.	2.2	0
78	Materials and Corrosion Research in the Yucca Mountain Project. ECS Transactions, 2011, 33, 1-14.	0.5	0
79	Determination of Crevice Corrosion Susceptibility of Alloy 22 Using Different Electrochemical Techniques. Materials Research Society Symposia Proceedings, 2010, 1265, 1.	0.1	0
80	Effect of the Composition of Nickel Alloys on the Anodic Behavior in Aqueous Solutions of Chloride and Bicarbonate. Materials Research Society Symposia Proceedings, 2012, 1475, 513.	0.1	0
81	Phosphate Inhibition Effect on Chloride-Induced Crevice Corrosion of Alloy 22. Materials Research Society Symposia Proceedings, 2012, 1475, 483.	0.1	0
82	Materials for accident tolerant fuels. Corrosion Reviews, 2017, 35, 127.	2.0	0
83	Advanced Characterization Techniques Enabling Commercial Development of Accident Tolerant Fuel Cladding. Microscopy and Microanalysis, 2021, 27, 2910-2912.	0.4	0
84	Impact of Small Chemistry Variations in Plate and Weld Filler Metal on the Corrosion Performance of Ni-Cr-Mo Alloys2. Journal of ASTM International, 2006, 3, 100401.	0.2	0
85	Electrochemical Testing of Gas Tungsten Arc Welded and Reduced Pressure Electron Beam Welded Alloy 22. , 2006, , .		0
86	Assessing Residual Strains in Nuclear Power Reactor Internal Components Weld Mockups of Nickel Alloys Using EBSD. , 2013, , .		0
87	Utilizing the FeCrAl Alloys Oxidation Properties in Water, Air, and Steam. ECS Meeting Abstracts, 2018, , .	0.0	0
88	Hydrothermal Corrosion of SiC and FeCrAl for Accident Tolerant Fuel Cladding. ECS Meeting Abstracts, 2018, , .	0.0	0