Mark H Anderson

List of Publications by Year
in descending order

118 papers	3,624 citations	126907 33 h-index	149698 56 g-index
121 all docs	121 docs citations	121 times ranked	1863 citing authors

#	Article	IF	Citations
1	Materials corrosion in molten LiFâ€“NaFâ€“KF salt. Journal of Fluorine Chemistry, 2009, 130, 67-73.	1.7	342
2	A computational parameter study for the three-dimensional shockâ€“bubble interaction. Journal of Fluid Mechanics, 2008, 594, 85-124.	3.4	151
3	Corrosion of a stainless steel and nickel-based alloys in high temperature supercritical carbon dioxide environment. Corrosion Science, 2013, 69, 281-291.	6.6	148
4	Corrosion of austenitic alloys in high temperature supercritical carbon dioxide. Corrosion Science, 2012, 60, 246-255.	6.6	141
5	Ceramicâ€“metal composites for heat exchangers in concentrated solar power plants. Nature, 2018, 562, 406-409.	27.8	123
6	Experimental analysis of heat transfer within the AP600 containment under postulated accident conditions. Nuclear Engineering and Design, 1998, 185, 153-172.	1.7	109
7	Heat transfer to water at supercritical pressures in a circular and square annular flow geometry. International Journal of Heat and Fluid Flow, 2008, 29, 156-166.	2.4	109
8	Corrosion of austenitic and ferritic-martensitic steels exposed to supercritical carbon dioxide. Corrosion Science, 2011, 53, 3273-3280.	6.6	105
9	Development of a new forced convection heat transfer correlation for CO2 in both heating and cooling modes at supercritical pressures. International Journal of Thermal Sciences, 2011, 50, 2430-2442.	4.9	105
10	A diffusion layer model for steam condensation within the AP600 containment. Nuclear Engineering and Design, 1998, 183, 133-150.	1.7	94
11	PDF-based modeling on the turbulent convection heat transfer of supercritical CO2 in the printed circuit heat exchangers for the supercritical CO2 Brayton cycle. International Journal of Heat and Mass Transfer, 2016, 98, 204-218.	4.8	93
12	Corrosion behavior of an alumina forming austenitic steel exposed to supercritical carbon dioxide. Corrosion Science, 2014, 82, 67-76.	6.6	79
13	Corrosion of 316 stainless steel in high temperature molten Li2BeF4 (FLiBe) salt. Journal of Nuclear Materials, 2015, 461, 143-150.	2.7	76
14	Shock-bubble interactions: Features of divergent shock-refraction geometry observed in experiments and simulations. Physics of Fluids, 2008, 20, .	4.0	75
15	Experimental validation of a Richtmyerâ€“Meshkov scaling law over large density ratio and shock strength ranges. Physics of Fluids, 2009, 21, .	4.0	70
16	Nickel-plating for active metal dissolution resistance in molten fluoride salts. Journal of Nuclear Materials, 2011, 411, 51-59.	2.7	67
17	Experimental Investigation of Primary and Secondary Features in High-Mach-Number Shock-Bubble Interaction. Physical Review Letters, 2007, 98, 024502.	7.8	64
18	Current Status of Knowledge of the Fluoride Salt (FLiNaK) Heat Transfer. Nuclear Technology, 2009, 165, 166-173.	1.2	63

#	Article	IF	Citations
19	Intergranular corrosion of high temperature alloys in molten fluoride salts. Materials at High Temperatures, 2010, 27, 145-149.	1.0	62
20	Experimental Investigation of a Strongly Shocked Gas Bubble. Physical Review Letters, 2005, 94, 184507.	7.8	61
21	Heat Transfer and Fluid Flow Characteristics in Supercritical Pressure Water. Journal of Heat Transfer, 2009, 131, .	2.1	54
22	Shock tube investigation of hydrodynamic issues related to inertial confinement fusion. Shock Waves, 2000, 10, 377-387.	1.9	53
23	Experimental investigation of thermal-hydraulic performance of discontinuous fin printed circuit heat exchangers for supercritical CO2 power cycles. Experimental Thermal and Fluid Science, 2019, 106, 119-129.	2.7	52
24	Heat Transfer of Supercritical Carbon Dioxide in Printed Circuit Heat Exchanger Geometries. Journal of Thermal Science and Engineering Applications, 2011, 3, .	1.5	50
25	Cost comparison of printed circuit heat exchanger to low cost periodic flow regenerator for use as recuperator in a s-CO2 Brayton cycle. Applied Energy, 2017, 208, 1150-1161.	10.1	50
26	Supercritical Carbon Dioxide Heat Transfer in Horizontal Semicircular Channels. Journal of Heat Transfer, 2012, 134, .	2.1	49
27	Corrosion of Alloy Haynes 230 in High Temperature Supercritical Carbon Dioxide with Oxygen Impurity Additions. Oxidation of Metals, 2016, 86, 567-580.	2.1	46
28	Advanced heat exchanger development for molten salts. Nuclear Engineering and Design, 2014, 280, 42-56.	1.7	42
29	Corrosion of 316L Stainless Steel Alloy and Hastelloy-N Superalloy in Molten Eutectic LiF-NaF-KF Salt and Interaction with Graphite. Nuclear Technology, 2014, 188, 192-199.	1.2	40
30	Experimental investigation of pressure drop and heat transfer in high temperature supercritical CO2 and helium in a printed-circuit heat exchanger. International Journal of Heat and Mass Transfer, 2021, 171, 121089.	4.8	36
31	Free surface flow in the mixing zone of an annular centrifugal contactor. AICHE Journal, 2008, 54, 74-85.	3.6	35
32	Experimental measurements of the nonlinear Rayleigh-Taylor instability using a magnetorheological fluid. Physical Review E, 2010, 81, 026303.	2.1	35
33	A thermodynamically consistent and fully conservative treatment of contact discontinuities for compressible multicomponent flows. Journal of Computational Physics, 2004, 195, 528-559.	3.8	34
34	Impact of Corrosion Test Container Material in Molten Fluorides. Journal of Solar Energy Engineering, Transactions of the ASME, 2015, 137, .	1.8	34
35	High-Temperature Corrosion of UNS N10003 in Molten Li₂BeF₄(FLiBe) Salt. Corrosion, 2015, 71, 1257-1266.	1.1	33
36	Measurement of supercritical CO2 critical flow: Effects of L/D and surface roughness. Nuclear Engineering and Design, 2009, 239, 949-955.	1.7	31

#	Article	IF	Citations
37	Spectral emissivity measurements of candidate materials for very high temperature reactors. Nuclear Engineering and Design, 2012, 251, 78-83.	1.7	31
38	Analysis of the effect of mixing vane geometry on the flow in an annular centrifugal contactor. AICHE Journal, 2009, 55, 2244-2259.	3.6	27
39	Effects of Corrosion in Supercritical CO2 on the Microstructural Evolution in 800H Alloy. Oxidation of Metals, 2018, 90, 453-468.	2.1	26
40	Batch-Scale Hydrofluorination of Li27BeF4 to Support Molten Salt Reactor Development. Journal of Nuclear Engineering and Radiation Science, 2015, 1, .	0.4	25
41	Numerical modeling of supercritical carbon dioxide flow in see-through labyrinth seals. Nuclear Engineering and Design, 2015, 293, 436-446.	1.7	25
42	Heat Transfer in a Supercritical Fluid: Classification of Heat Transfer Regimes. Nuclear Technology, 2006, 154, 335-349.	1.2	23
43	Effects of CO and O2 Impurities on Supercritical CO2 Corrosion of Alloy 625. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 3703-3714.	2.2	23
44	Corrosion resistance of <scp>PM</scp>2000 <scp>ODS</scp> steel in high temperature supercritical carbon dioxide. Materials and Corrosion - Werkstoffe Und Korrosion, 2015, 66, 137-142.	1.5	22
45	In Situ Measurements of Spectral Emissivity of Materials for Very High Temperature Reactors. Nuclear Technology, 2011, 175, 460-467.	1.2	21
46	Investigation of Buoyancy Effects on Heat Transfer Characteristics of Supercritical Carbon Dioxide in Heating Mode. Journal of Nuclear Engineering and Radiation Science, 2015, 1, .	0.4	21
47	Design, Fabrication, and Testing of Ceramic Plate-Type Heat Exchangers with Integrated Flow Channel Design. International Journal of Applied Ceramic Technology, 2011, 8, 1073-1086.	2.1	20
48	Phenomenology, methods and experimental program for fluoride-salt-cooled, high-temperature reactors (FHRs). Progress in Nuclear Energy, 2014, 77, 390-405.	2.9	20
49	Measurements of the flow of supercritical carbon dioxide through short orifices. Journal of Supercritical Fluids, 2014, 88, 17-25.	3.2	20
50	Experimental investigation of a twice-shocked spherical gas inhomogeneity with particle image velocimetry. Shock Waves, 2011, 21, 225-231.	1.9	19
51	Zirconium Effect on the Corrosion Behavior of 316L Stainless Steel Alloy and Hastelloy-N Superalloy in Molten Fluoride Salt. Nuclear Technology, 2013, 183, 248-259.	1.2	19
52	The performance of Haynes 282 and its weld in supercritical CO2. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 759, 770-777.	5.6	18
53	Natural circulation FLiBe loop overview. International Journal of Heat and Mass Transfer, 2019, 134, 970-983.	4.8	18
54	CRITICAL FLOW EXPERIMENT AND ANALYSIS FOR SUPERCRITICAL FLUID. Nuclear Engineering and Technology, 2008, 40, 133-138.	2.3	18

#	Article	IF	Citations
55	Observed Redox Potential Range of Li₂BeF₄Using a Dynamic Reference Electrode. Nuclear Technology, 2016, 195, 239-252.	1.2	17
56	Experimental study of the shockâ€“bubble interaction with reshock. Shock Waves, 2012, 22, 47-56.	1.9	16
57	Spectral emissivity of candidate alloys for very high temperature reactors in high temperature air environment. Journal of Nuclear Materials, 2013, 441, 667-673.	2.7	16
58	Influences of boil-off on the behavior of a two-phase natural circulation loop. International Journal of Multiphase Flow, 2014, 60, 135-148.	3.4	16
59	Designing moving magnet pumps for high-temperature, liquid-metal systems. Nuclear Engineering and Design, 2018, 327, 228-237.	1.7	15
60	Enhanced flow boiling heat transfer on chromium coated zircaloy-4 using cold spray technique for accident tolerant fuel (ATF) materials. Applied Thermal Engineering, 2021, 185, 116347.	6.0	15
61	Melt quenching and coolability by water injection from below: Co-injection of water and non-condensable gas. Nuclear Engineering and Design, 2006, 236, 2296-2303.	1.7	14
62	Effect of supercritical CO2 on the performance of 740H fusion welds. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 742, 414-422.	5.6	13
63	On the Development of a Robust Optical Fiber-Based Level Sensor. IEEE Sensors Journal, 2018, 18, 583-588.	4.7	12
64	Corrosion and Mechanical Performance of Grade 92 Ferritic-Martensitic Steel After Exposure to Supercritical Carbon Dioxide. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 2564-2572.	2.2	12
65	Mechanical and Corrosion Response of 316SS in Supercritical CO2. Oxidation of Metals, 2021, 95, 409-425.	2.1	11
66	A High-Throughput Method to Define Additive Manufacturing Process Parameters: Application to Haynes 282. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2022, 53, 250-263.	2.2	11
67	An apparatus for the study of high temperature water radiolysis in a nuclear reactor: Calibration of dose in a mixed neutron/gamma radiation field. Review of Scientific Instruments, 2007, 78, 124101.	1.3	10
68	Experimental study of the hydraulic operation of an annular centrifugal contactor with various mixing vane geometries. AICHE Journal, 2010, 56, 1960-1974.	3.6	10
69	Failure analysis of 316L stainless steel crucible by molten fluoride salt interaction with clay bonded silicon carbide. Engineering Failure Analysis, 2014, 42, 38-44.	4.0	10
70	Characterization of Thermal Striping in Liquid Sodium With Optical Fiber Sensors. Journal of Nuclear Engineering and Radiation Science, 2017, 3, .	0.4	10
71	Using optical fibers to examine thermal mixing of liquid sodium in a pool-type geometry. International Journal of Heat and Mass Transfer, 2020, 158, 119968.	4.8	10
72	Experimental study of shock-accelerated liquid layers. Shock Waves, 2006, 15, 383-397.	1.9	9

#	Article	IF	Citations
73	Study on the Behavior of an Asymmetrically Heated Reactor Cavity Cooling System with Water in Single Phase. Nuclear Technology, 2013, 183, 75-87.	1.2	9
74	One-dimensional, transient modeling of a fixed-bed regenerator as a replacement for recuperators in supercritical CO2 power cycles. Energy Conversion and Management, 2020, 218, 112921.	9.2	9
75	Simulation of the supercritical CO2 recompression Brayton power cycle with a high-temperature regenerator. Energy Conversion and Management, 2021, 229, 113678.	9.2	9
76	Overview of fusion nuclear technology in the US. Fusion Engineering and Design, 2006, 81, 33-43.	1.9	8
77	Richtmyer-Meshkov Parameter Study. Fusion Science and Technology, 2009, 56, 460-464.	1.1	8
78	Richtmyerâ€“Meshkov instability on a low Atwood number interface after reshock. Shock Waves, 2012, 22, 317-325.	1.9	8
79	Critical heat flux on zircaloy and accident tolerant fuel cladding under prototypical conditions of pressurized and boiling water reactors. Applied Thermal Engineering, 2022, 213, 118740.	6.0	8
80	Liquid-Metal/Water Direct Contact Heat Exchange: Flow Visualization, Flow Stability, and Heat Transfer Using Real-Time X-Ray Imaging. Nuclear Science and Engineering, 2005, 150, 182-220.	1.1	7
81	Critical Heat Flux in TRIGA-Fueled Reactors Cooled by Natural Convection. Nuclear Science and Engineering, 2012, 172, 249-258.	1.1	7
82	Simulation of Supercritical CO2 Flow Through Circular and Annular Orifice. Journal of Nuclear Engineering and Radiation Science, 2015, 1, .	0.4	7
83	A Critical Review of Fluoride Salt Heat Transfer. Nuclear Technology, 2020, 206, 1625-1641.	1.2	7
84	The performance of additively manufactured Haynes 282 in supercritical CO2. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 841, 143007.	5.6	7
85	Heat transfer behavior of molten nitrate salt. AIP Conference Proceedings, 2016, , .	0.4	6
86	Development of a Stable High-Temperature Diamond Thermistor Using Enhanced Supporting Designs. IEEE Sensors Journal, 2019, 19, 6587-6594.	4.7	6
87	Experimental study for critical heat flux in 2x2 rod bundles at high pressure conditions. Nuclear Engineering and Design, 2020, 365, 110730.	1.7	6
88	An Efficient 1-D Thermal Stratification Model for Pool-Type Sodium-Cooled Fast Reactors. Nuclear Technology, 2020, 206, 1465-1480.	1.2	6
89	Coupled Heat Transfer and Hydraulic Modeling of an Experimental Printed Circuit Heat Exchanger Using Finite Element Methods. Journal of Thermal Science and Engineering Applications, 2021, 13, .	1.5	6
90	Pressure drop and heat transfer characteristics of nitrate salt and supercritical CO2 in a diffusion-bonded heat exchanger. International Journal of Heat and Mass Transfer, 2022, 189, 122691.	4.8	6

#	Article	IF	Citations
91	Heat Transfer of Supercritical Carbon Dioxide in Printed Circuit Heat Exchanger Geometries. , 2010, , .		5
92	Modeling and experimental testing of periodic flow regenerators for sCO2 cycles. Applied Thermal Engineering, 2019, 147, 789-803.	6.0	5
93	ASME Boiler and Pressure Vessel Code Roadmap for Compact Heat Exchangers in High Temperature Reactors. Journal of Nuclear Engineering and Radiation Science, 2020, 6, .	0.4	5
94	Numerical Study of Compact Heat Exchanger Designs for Generation IV Supercritical Carbon Dioxide Power Conversion Cycles. Nuclear Science and Engineering, 2014, 176, 138-153.	1.1	4
95	Temperature Profiles and Mixing in a Natural-Circulation Cooling Facility via Distributed Optical Sensors. Nuclear Technology, 2016, 196, 346-354.	1.2	4
96	Polymer film-based optical access to enclosed gas: demonstration of H2O absorption tomography. Applied Physics B: Lasers and Optics, 2016, 122, 1.	2.2	4
97	Summary on the Results of Two Computational Fluid Dynamic Benchmarks of Tube and Different Channel Geometries. Journal of Nuclear Engineering and Radiation Science, 2018, 4, .	0.4	4
98	Optical Fiber-Based Level Sensor for High Temperature Applications. IEEE Sensors Journal, 2020, 20, 9187-9195.	4.7	4
99	Experimental study of SRT scrubbing model in water coolant pool. Nuclear Engineering and Design, 2021, 377, 111130.	1.7	3
100	THE EFFECT OF LIGHT GASES IN NONCONDENSABLE MIXTURES ON CONDENSATION HEAT TRANSFER. , 1998, , .		3
101	Inertial-Fusion-Related Hydrodynamic Instabilities in a Spherical Gas Bubble Accelerated by a Planar Shock Wave. Fusion Science and Technology, 2005, 47, 1160-1164.	1.1	2
102	Shock Mitigation Studies of Solid Foams for Z-Pinch Chamber Protection. , 2005, , .		2
103	Shock Mitigation Studies in Voided Liquids for Fusion Chamber Protection. Fusion Science and Technology, 2007, 52, 943-947.	1.1	2
104	Study of Critical Heat Flux in Natural Convectionâ€“Cooled TRIGA Reactors with Single Annulus and Rod Bundle Geometries. Nuclear Science and Engineering, 2015, 180, 141-153.	1.1	2
105	Design and demonstration of a laboratory-scale oxygen controlled liquid sodium facility. Nuclear Engineering and Design, 2021, 378, 111093.	1.7	2
106	Energetic Analysis of Experimental Behavior of Molten Sn_xLi_yWhen Impacted by a Vertical Column of Water. Fusion Science and Technology, 2003, 44, 803-810.	1.1	1
107	Mini-Channel Supercritical CO2 Heat Transfer Measurements for Brayton Cycle Regenerators. , 2009, , .		1
108	Effect of Buoyancy on Heat Transfer Characteristics of Supercritical Carbon Dioxide in the Heating Mode. , 2014, , .		1

#	Article	IF	Citations
109	Experimental and Numerical Study of Supercritical Carbon Dioxide Flow Through Valves. Journal of Nuclear Engineering and Radiation Science, 2016, 2, .	0.4	1
110	Thermal Stratification Modeling for Sodium-Cooled Fast Reactors: A Status Update. , 2018, , .		1
111	High Temperature Sodium Submersible Flowmeter Design and Analysis. IEEE Sensors Journal, 2021, 21, 16529-16537.	4.7	1
112	<title>New directions in surface spectroscopy enabled by ultrafast lasers</title>. , 1998, 3272, 51.		0
113	Development of High Temperature, Corrosion Resistant Sensors for Concentrating Solar Power Systems. , 2014, , .		0
114	Unusual Heat Transfer Characteristics of Supercritical Carbon Dioxide. , 2015, , .		0
115	Experimental Testing of s-CO2 Regenerator for Use as a Replacement to High Cost Printed Circuit Recuperators for Use in s-CO2 Recompression Brayton Cycle. , 2016, , .		0
116	Ionization Chambers to Measure Neutron and Gamma-Ray Kerma in a Research Reactor. , 2017, , .		0
117	Ionization Chambers to Determine Neutron and Gamma-Ray Kerma in a Research Reactor. IEEE Transactions on Nuclear Science, 2019, 66, 2160-2169.	2.0	0
118	ICOPE-15-C029 A physically improved semi-empirical model on turbulent convection heat transfer to supercritical CO_2 in printed circuit heat exchangers. The Proceedings of the International Conference on Power Engineering (ICOPE), 2015, 2015.12, _ICOPE-15--_ICOPE-15-.	0.0	0