

Nathan S Jacobson

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

82

papers

3,942

citations

33

h-index

62

g-index

89

ext. papers

4,361

ext. citations

3.5

avg, IF

5.54

L-index

#	Paper	IF	Citations
82	Corrosion of Silicon-Based Ceramics in Combustion Environments. <i>Journal of the American Ceramic Society</i> , 1993 , 76, 3-28	3.8	609
81	Oxidation microstructure studies of reinforced carbon/carbon. <i>Carbon</i> , 2006 , 44, 1142-1150	10.4	258
80	SiC Recession Caused by SiO ₂ Scale Volatility under Combustion Conditions: II, Thermodynamics and Gaseous-Diffusion Model. <i>Journal of the American Ceramic Society</i> , 1999 , 82, 1826-1834	3.8	241
79	New Generation of Plasma-Sprayed Mullite Coatings on Silicon Carbide. <i>Journal of the American Ceramic Society</i> , 1995 , 78, 705-710	3.8	183
78	Theoretical and experimental investigation of the thermochemistry of CrO ₂ (OH) ₂ (g). <i>Journal of Physical Chemistry A</i> , 2007 , 111, 1971-80	2.8	153
77	Predicting oxide stability in high-temperature water vapor. <i>Jom</i> , 2006 , 58, 22-28	2.1	135
76	High-Temperature Oxidation of Boron Nitride: II, Boron Nitride Layers in Composites. <i>Journal of the American Ceramic Society</i> , 2004 , 82, 1473-1482	3.8	131
75	Mass Spectrometric Identification of SiOH(g) Species from the Reaction of Silica with Water Vapor at Atmospheric Pressure. <i>Journal of the American Ceramic Society</i> , 2005 , 80, 1009-1012	3.8	124
74	SiC and Si ₃ N ₄ recession due to SiO ₂ scale volatility under combustor conditions. <i>Advanced Composite Materials</i> , 1999 , 8, 33-45	2.8	119
73	High-Temperature Oxidation of Boron Nitride: I, Monolithic Boron Nitride. <i>Journal of the American Ceramic Society</i> , 2004 , 82, 393-398	3.8	117
72	Oxidation and corrosion of ceramics and ceramic matrix composites. <i>Current Opinion in Solid State and Materials Science</i> , 2001 , 5, 301-309	12	107
71	Hot Corrosion of Sintered SiC at 1000°C. <i>Journal of the American Ceramic Society</i> , 1985 , 68, 432-439	3.8	104
70	Reactions of Silicon Carbide and Silicon(IV) Oxide at Elevated Temperatures. <i>Journal of the American Ceramic Society</i> , 1992 , 75, 1603-1611	3.8	100
69	Active Oxidation of SiC. <i>Oxidation of Metals</i> , 2011 , 75, 1-25	1.6	99
68	Oxidation through coating cracks of SiC-protected carbon/carbon. <i>Surface and Coatings Technology</i> , 2008 , 203, 372-383	4.4	85
67	Kinetics and Mechanism of Corrosion of SiC by Molten Salts. <i>Journal of the American Ceramic Society</i> , 1986 , 69, 74-82	3.8	82
66	Water Vapor-Mediated Volatilization of High-Temperature Materials. <i>Annual Review of Materials Research</i> , 2013 , 43, 559-588	12.8	80

65	Interactions of water vapor with oxides at elevated temperatures. <i>Journal of Physics and Chemistry of Solids</i> , 2005 , 66, 471-478	3.9	78
64	Thermodynamics of gas phase species in the SiO ₂ -H ₂ O system. <i>Journal of Chemical Thermodynamics</i> , 2005 , 37, 1130-1137	2.9	73
63	Oxidation Transitions for SiC Part I. Active-to-Passive Transitions. <i>Journal of the American Ceramic Society</i> , 2013 , 96, 838-844	3.8	71
62	Oxidation Transitions for SiC Part II. Passive-to-Active Transitions. <i>Journal of the American Ceramic Society</i> , 2013 , 96, 606-612	3.8	69
61	Mechanism of Strength Degradation for Hot Corrosion of SiC. <i>Journal of the American Ceramic Society</i> , 1986 , 69, 741-752	3.8	67
60	Molten-Salt Corrosion of Silicon Nitride: II, Sodium Sulfate. <i>Journal of the American Ceramic Society</i> , 1988 , 71, 139-148	3.8	53
59	The influence of tungsten on the chemical composition of a temporally evolving nanostructure of a model Ni-Al-Cr superalloy. <i>Microscopy and Microanalysis</i> , 2004 , 10, 355-65	0.5	50
58	Molten-Salt Corrosion of Silicon Nitride: I, Sodium Carbonate. <i>Journal of the American Ceramic Society</i> , 1988 , 71, 128-138	3.8	45
57	Sodium sulfate: Deposition and dissolution of silica. <i>Oxidation of Metals</i> , 1989 , 31, 91-103	1.6	41
56	Mass spectrometric measurements of the silica activity in the Yb ₂ O ₃ -Bi ₂ O ₃ system and implications to assess the degradation of silicate-based coatings in combustion environments. <i>Journal of the European Ceramic Society</i> , 2015 , 35, 4259-4267	6	39
55	Corrosion of Mullite by Molten Salts. <i>Journal of the American Ceramic Society</i> , 1996 , 79, 2161-2167	3.8	38
54	Thermodynamics of Selected Ti-Al and Ti-Al-Cr Alloys. <i>Oxidation of Metals</i> , 1999 , 52, 537-556	1.6	36
53	Reactions of SiC with H ₂ /H ₂ O/Ar Mixtures at 1300°C. <i>Journal of the American Ceramic Society</i> , 1990 , 73, 2330-2332	3.8	35
52	Burner Rig Corrosion of SiC at 1000°C. <i>Advanced Ceramic Materials</i> , 1986 , 1, 154-161		35
51	Oxidative attack of carbon/carbon substrates through coating pinholes. <i>Carbon</i> , 1999 , 37, 411-419	10.4	34
50	Silica Activity Measurements in the Y ₂ O ₃ -Bi ₂ O ₃ System and Applications to Modeling of Coating Volatility. <i>Journal of the American Ceramic Society</i> , 2014 , 97, 1959-1965	3.8	33
49	Multielement Mapping of SiC by Scanning Auger Microscopy. <i>Advanced Ceramic Materials</i> , 1987 , 2, 773-779		32
48	Reactions of Silicon-Based Ceramics in Mixed Oxidation Chlorination Environments. <i>Journal of the American Ceramic Society</i> , 1988 , 71, 1067-1073	3.8	31

47	SOLUBILITY OF ROCK IN STEAM ATMOSPHERES OF PLANETS. <i>Astrophysical Journal</i> , 2016 , 824, 103	4.7	28
46	Thermodynamics of iron-aluminum alloys at 1573 K. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 1993 , 24, 481-486	2.5	25
45	Chemical Stability of the Fiber Coating Matrix Interface in Silicon-Based Ceramic Matrix Composites. <i>Journal of the American Ceramic Society</i> , 1995 , 78, 711-715	3.8	24
44	Volatile species in halide-activated diffusion coating packs. <i>Oxidation of Metals</i> , 1992 , 38, 33-43	1.6	24
43	Refractory Oxide Coatings on SiC Ceramics. <i>MRS Bulletin</i> , 1994 , 19, 35-38	3.2	22
42	Thermodynamics of reaction between gas-turbine ceramic coatings and ingested CMAS corrodents. <i>Journal of the American Ceramic Society</i> , 2019 , 102, 2948-2964	3.8	22
41	Vaporization and thermodynamics of forsterite-rich olivine and some implications for silicate atmospheres of hot rocky exoplanets. <i>Icarus</i> , 2017 , 289, 42-55	3.8	19
40	High-Temperature Stability of Alumina in Argon and Argon/Water-Vapor Environments. <i>Journal of the American Ceramic Society</i> , 2004 , 82, 245-248	3.8	18
39	Computational and Experimental Study of Thermodynamics of the Reaction of Titania and Water at High Temperatures. <i>Journal of Physical Chemistry A</i> , 2017 , 121, 9508-9517	2.8	15
38	Chemical Reactions in the Processing of MoSi ₂ Carbon Compacts. <i>Journal of the American Ceramic Society</i> , 1993 , 76, 2005-2009	3.8	15
37	High-temperature vaporization of B ₂ O ₃ (l) under reducing conditions. <i>Journal of Physical Chemistry B</i> , 2011 , 115, 13253-60	3.4	13
36	Direct Mass Spectrometric Identification of Silicon Oxychloride Compounds. <i>Journal of the Electrochemical Society</i> , 1988 , 135, 1571-1574	3.9	12
35	Corrosion of cordierite ceramics by sodium sulphate at 1000°C. <i>Journal of Materials Science</i> , 1989 , 24, 2903-2910	4.3	10
34	Reaction of Cobalt in SO ₂ Atmospheres at Elevated Temperatures. <i>Journal of the Electrochemical Society</i> , 1984 , 131, 1182-1188	3.9	10
33	Thermochemistry of volatile metal hydroxides and oxyhydroxides at elevated temperatures. <i>Journal of Materials Research</i> , 2019 , 34, 394-407	2.5	9
32	Volatile element chemistry during accretion of the earth. <i>Chemie Der Erde</i> , 2020 , 80, 125594	4.3	9
31	Interactions of Ta ₂ O ₅ with water vapor at elevated temperatures. <i>Journal of the American Ceramic Society</i> , 2017 , 100, 2353-2357	3.8	8
30	Vaporization coefficients of SiO ₂ and MgO. <i>Journal of the European Ceramic Society</i> , 2017 , 37, 2245-2258		7

29	Active oxidation of silicon carbide. <i>Materials at High Temperatures</i> , 2012 , 29, 193-198	1.1	6
28	Monte Carlo simulation of a Knudsen effusion mass spectrometer sampling system. <i>Rapid Communications in Mass Spectrometry</i> , 2017 , 31, 1041-1046	2.2	5
27	Quantum chemical calculations of the thermochemistry of tantalum oxyhydroxide species. <i>Journal of the American Ceramic Society</i> , 2019 , 102, 3836-3842	3.8	5
26	High Temperature Chlorosilane Corrosion of AISI 316L. <i>Journal of the Electrochemical Society</i> , 2016 , 163, C452-C458	3.9	5
25	Vaporization of Protective Oxide Films into Different Gas Atmospheres. <i>Oxidation of Metals</i> , 2020 , 93, 247-282	1.6	5
24	A Thermoanalytical Study of the Conversion of Amorphous Silicon Fibers to SiC. <i>International Journal of Applied Ceramic Technology</i> , 2012 , 9, 816-822	2	4
23	Thermodynamic Constraints on the Lower Atmosphere of Venus. <i>ACS Earth and Space Chemistry</i> , 2017 , 1, 422-430	3.2	4
22	Thermodynamics of high-temperature aluminum, zirconium, and yttrium hydroxide and oxyhydroxide vapor species. <i>Journal of the American Ceramic Society</i> , 2020 , 103, 5870-5880	3.8	3
21	Characterization and Oxidation Behavior of Rayon-Derived Carbon Fibers. <i>Oxidation of Metals</i> , 2010 , 74, 193-203	1.6	3
20	Combustion Methods for Measuring Low Levels of Carbon in Nickel, Copper, Silver, and Gold. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2016 , 47, 3533-3543	2.5	3
19	NDE for Characterizing Oxidation Damage in Reinforced Carbon-Carbon Used on the NASA Space Shuttle Thermal Protection System	133-141	3
18	Introduction to proceedings of the workshop on Knudsen Effusion Mass Spectrometry. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2019 , 65, 111-126	1.9	2
17	Measuring Thermodynamic Properties of Metals and Alloys 2012 , 1143-1180		2
16	Oxidation of FeCrAlY Fibers at Low Oxygen Potentials. <i>Oxidation of Metals</i> , 2008 , 69, 343-358	1.6	2
15	High-Temperature (550-700°C) Chlorosilane Interactions with Iron. <i>Journal of the Electrochemical Society</i> , 2016 , 163, C666-C674	3.9	2
14	Corrosion of Ceramic Materials	327-388	1
13	Solubility of CO ₂ in Sodium Silicate Melts. <i>ACS Earth and Space Chemistry</i> , 2020 , 4, 2113-2120	3.2	1
12	Solubility of Water in Carbonatites. <i>ACS Earth and Space Chemistry</i> , 2020 , 4, 2144-2152	3.2	1

11	Thermochemistry of Gaseous Ytterbium and Gadolinium Hydroxides and Oxyhydroxides. <i>Journal of Physical Chemistry A</i> , 2021 , 125, 2913-2922	2.8	1
10	Identification of volatile metal hydroxides with free jet expansion sampling mass spectrometry. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2019 , 65, 73-78	1.9	1
9	Thermodynamics of the Lu ₂ O ₃ -SiO ₂ system and comparison to other rare earth silicates. <i>Journal of Chemical Thermodynamics</i> , 2021 , 161, 106483	2.9	1
8	Oxidation and Corrosion of Ceramics 2013 , 1-93		0
7	Thermodynamics of the Ti-Al ₂ O ₃ system. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2022 , 77, 102400	1.9	0
6	Influence of silicon on high-temperature (600 °C) chlorosilane interactions with iron. <i>Solar Energy Materials and Solar Cells</i> , 2017 , 160, 410-417	6.4	
5	Oxidation and Corrosion of Ceramics 2014 , 1-93		
4	Nondestructive Evaluation (NDE) for Characterizing Oxidation Damage in Cracked Reinforced Carbon-Carbon. <i>International Journal of Applied Ceramic Technology</i> , 2009 , 7, 652-661	2	
3	NDE for Characterizing Oxidation Damage in Reinforced Carbon-Carbon. <i>Ceramic Transactions</i> , 167-180	0.1	
2	Kinetics and Mechanism of Oxidation of the Reinforced Carbon/Carbon on the Space Shuttle Orbiter. <i>Ceramic Engineering and Science Proceedings</i> , 3-21	0.1	
1	The Reactions of Cobalt, Iron and Nickel in SO ₂ Atmospheres: Similarities and Differences. <i>NATO ASI Series Series B: Physics</i> , 1985 , 451-461		