Elizabeth J Opila

List of Publications by Citations

56 papers	3,566 citations	25 h-index	59 g-index
62 ext. papers	4,064 ext. citations	4.7 avg, IF	5.54 L-index

#	Paper	IF	Citations
56	Evaluation of ultra-high temperature ceramics foraeropropulsion use. *Journal of the European Ceramic Society*, **2002**, 22, 2757-2767	6	616
55	Paralinear Oxidation of CVD SiC in Water Vapor. *Journal of the American Ceramic Society*, **1997**, 80, 197-205	3.8	357
54	SiC Recession Caused by SiO2 Scale Volatility under Combustion Conditions: II, Thermodynamics and Gaseous-Diffusion Model. *Journal of the American Ceramic Society*, **1999**, 82, 1826-1834	3.8	241
53	Variation of the Oxidation Rate of Silicon Carbide with Water-Vapor Pressure. *Journal of the American Ceramic Society*, **2004**, 82, 625-636	3.8	232
52	Oxidation and Volatilization of Silica Formers in Water Vapor. *Journal of the American Ceramic Society*, **2003**, 86, 1238-1248	3.8	202
51	A Comparison of the Oxidation Kinetics of SiC and Si3 N 4. *Journal of the Electrochemical Society*, **1995**, 142, 925-930	3.9	165
50	Oxidation Kinetics of Chemically Vapor-Deposited Silicon Carbide in Wet Oxygen. *Journal of the American Ceramic Society*, **1994**, 77, 730-736	3.8	162
49	Theoretical and experimental investigation of the thermochemistry of CrO2(OH)2(g). *Journal of Physical Chemistry A*, **2007**, 111, 1971-80	2.8	153
48	Predicting oxide stability in high-temperature water vapor. *Jom*, **2006**, 58, 22-28	2.1	135
47	Mass Spectrometric Identification of SiO□H(g) Species from the Reaction of Silica with Water Vapor at Atmospheric Pressure. *Journal of the American Ceramic Society*, **2005**, 80, 1009-1012	3.8	124
46	SiC and Si3N4 recession due to SiO2 scale volatility under combustor conditions. *Advanced Composite Materials*, **1999**, 8, 33-45	2.8	119
45	Oxidation and corrosion of ceramics and ceramic matrix composites. *Current Opinion in Solid State and Materials Science*, **2001**, 5, 301-309	12	107
44	Alumina Volatility in Water Vapor at Elevated Temperatures. *Journal of the American Ceramic Society*, **2004**, 87, 1701-1705	3.8	98
43	Water Vapor□Mediated Volatilization of High-Temperature Materials. *Annual Review of Materials Research*, **2013**, 43, 559-588	12.8	80
42	Thermodynamics of gas phase species in the SiO□H system. *Journal of Chemical Thermodynamics*, **2005**, 37, 1130-1137	2.9	73
41	Oxygen Tracer Diffusion in La2-xSrxCuO4-y Single Crystals. *Journal of the American Ceramic Society*, **1993**, 76, 2363-2369	3.8	67
40	Paralinear Oxidation of Silicon Nitride in a Water-Vapor/Oxygen Environment. *Journal of the American Ceramic Society*, **2003**, 86, 1256-1261	3.8	62

39	Effect of Environment on the Stress-Rupture Behavior of a Carbon-Fiber-Reinforced Silicon Carbide Ceramic Matrix Composite. *Journal of the American Ceramic Society*, **2004**, 87, 1536-1542	3.8	55
38	Oxidation of Zrb2-Sic221-228		54
37	Oxidation of Ultrahigh Temperature Ceramics in Water Vapor. *Journal of the Electrochemical Society*, **2004**, 151, B558	3.9	50
36	Oxidation of Chemically-Vapor-Deposited Silicon Carbide in Carbon Dioxide. *Journal of the American Ceramic Society*, **2005**, 81, 1949-1952	3.8	45
35	Additive Effects on Si3N4 Oxidation/Volatilization in Water Vapor. *Journal of the American Ceramic Society*, **2003**, 86, 1262-1271	3.8	34
34	A method for assessing the volatility of oxides in high-temperature high-velocity water vapor. *Journal of the European Ceramic Society*, **2016**, 36, 1135-1147	6	31
33	Part I: Theoretical predictions of preferential oxidation in refractory high entropy materials. *Acta Materialia*, **2020**, 197, 20-27	8.4	30
32	Thermogravimetric Analysis and Defect Models of the Oxygen Nonstoichiometry in La2−xSrxCuO4−δ. *Journal of the American Ceramic Society*, **1994**, 77, 2727-2737	3.8	27
31	Part II: Experimental verification of computationally predicted preferential oxidation of refractory high entropy ultra-high temperature ceramics. *Acta Materialia*, **2020**, 197, 81-90	8.4	25
30	Thermodynamic assessment of the group IV, V and VI oxides for the design of oxidation resistant multi-principal component materials. *Journal of the European Ceramic Society*, **2019**, 39, 1796-1802	6	25
29	Oxidation of Carbon Fiber-Reinforced Silicon Carbide Matrix Composites at Reduced Oxygen Partial Pressures. *Journal of the American Ceramic Society*, **2011**, 94, 2185-2192	3.8	23
28	Borosilicate Glass-Induced Fiber Degradation of SiC/BN/SiC Composites Exposed in Combustion Environments. *International Journal of Applied Ceramic Technology*, **2016**, 13, 434-442	2	23
27	Silicon carbide fiber oxidation behavior in the presence of boron nitride. *Journal of the American Ceramic Society*, **2018**, 101, 5534-5551	3.8	16
26	High-temperature oxidation of yttrium silicides. *Journal of Materials Science*, **2018**, 53, 3981-4000	4.3	11
25	Paralinear Oxidation of CVD SiC in Simulated Fuel-Rich Combustion. *Journal of the American Ceramic Society*, **2004**, 83, 1761-1767	3.8	11
24	Oxidation of SiC Fiber-Reinforced SiC Matrix Composites with a BN Interphase. *Materials Science Forum*, **2011**, 696, 342-347	0.4	10
23	Local thermal conductivity measurements to determine the fraction of α-cristobalite in thermally grown oxides for aerospace applications. *Scripta Materialia*, **2020**, 177, 214-217	5.6	10
22	Thermochemistry of volatile metal hydroxides and oxyhydroxides at elevated temperatures. *Journal of Materials Research*, **2019**, 34, 394-407	2.5	9

21	Characterization of Thermochemical and Thermomechanical Properties of Eyjafjallajökull Volcanic Ash Glass. *Coatings*, **2020**, 10, 100	2.9	9
20	Anisotropic thermal conductivity tensor of Y2Si2O7 for orientational control of heat flow on micrometer scales. *Acta Materialia*, **2020**, 189, 299-305	8.4	9
19	Cyclic Oxidation of Monolithic SiC and Si3N4 Materials367-374		9
18	Stability of the Y2O3SiO2 system in high-temperature, high-velocity water vapor. *Journal of the American Ceramic Society*, **2020**, 103, 2715-2726	3.8	8
17	High-Temperature Na2SO4 Deposit-Assisted Corrosion of Silicon Carbide I: Temperature and Time Dependence. *Journal of the American Ceramic Society*, **2015**, 98, 1275-1284	3.8	7
16	Thermochemical stability of Y2Si2O7 in high-temperature water vapor. *Journal of the American Ceramic Society*, **2020**, 103, 4517-4535	3.8	7
15	Oxidation Behavior of Prospective Silicon Nitride Materials for Advanced Microturbine Applications **2001**,		6
14	Evolution of microstructure and thermal conductivity of multifunctional environmental barrier coating systems. *Materials Today Physics*, **2021**, 17, 100304	8	6
13	High-temperature Na2SO4 deposit-assisted corrosion of silicon carbideI: Effects of B, C, and Si. *Journal of the American Ceramic Society*, **2017**, 100, 761-773	3.8	4
12	Solgel derived borosilicate glasses and thin film coatings on SiC substrates: Boron loss and carbon retention due to processing and heat treatment. *Journal of Non-Crystalline Solids*, **2016**, 449, 59-69	3.9	4
11	The Transport Properties and Defect Chemistry of La2-XSrXCuO4-*Materials Research Society Symposia Proceedings*, **1989**, 169, 65		4
10	Mixed phase ytterbium silicate environmental-barrier coating materials for improved calciummagnesiumalumino-silicate resistance. *Journal of Materials Research*, **2020**, 35, 2358-2372	2.5	3
9	Observation of solid-state bidirectional thermal conductivity switching in antiferroelectric lead zirconate (PbZrO).. *Nature Communications*, **2022**, 13, 1573	17.4	2
8	Corrosion of Ceramic Materials327-388		1
7	The Oxygen Defect Chemistry of La2-xSrxCuO4-x/2+*Materials Research Society Symposia Proceedings*, **1990**, 209, 867		1
6	Oxidation and Corrosion of Ceramics **2013**, 1-93		0
5	Thermomechanical and thermochemical stability of HfSiO4 for environmental barrier coating applications. *Journal of the American Ceramic Society*, **2021**, 104, 3593-3602	3.8	0
4	Na2SO4 deposit-induced hot corrosion of SiC fibers relevant for SiC CMCs. *Journal of the American Ceramic Society*, **2021**, 104, 5908-5922	3.8	0

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3	High-temperature Na2SO4 interaction with air plasma sprayed Yb2Si2O7/SiC/Si EBC system: Topcoat behavior. *Journal of the American Ceramic Society*, **2021**, 104, 6496	3.8	0
2	Viscosity of CaO-MgO-Al2O3-SiO2 (CMAS) melts: Experimental measurements and comparison to model calculations. *Journal of Non-Crystalline Solids*, **2022**, 584, 121508	3.9	0
1	Oxidation and Corrosion of Ceramics **2014**, 1-93		